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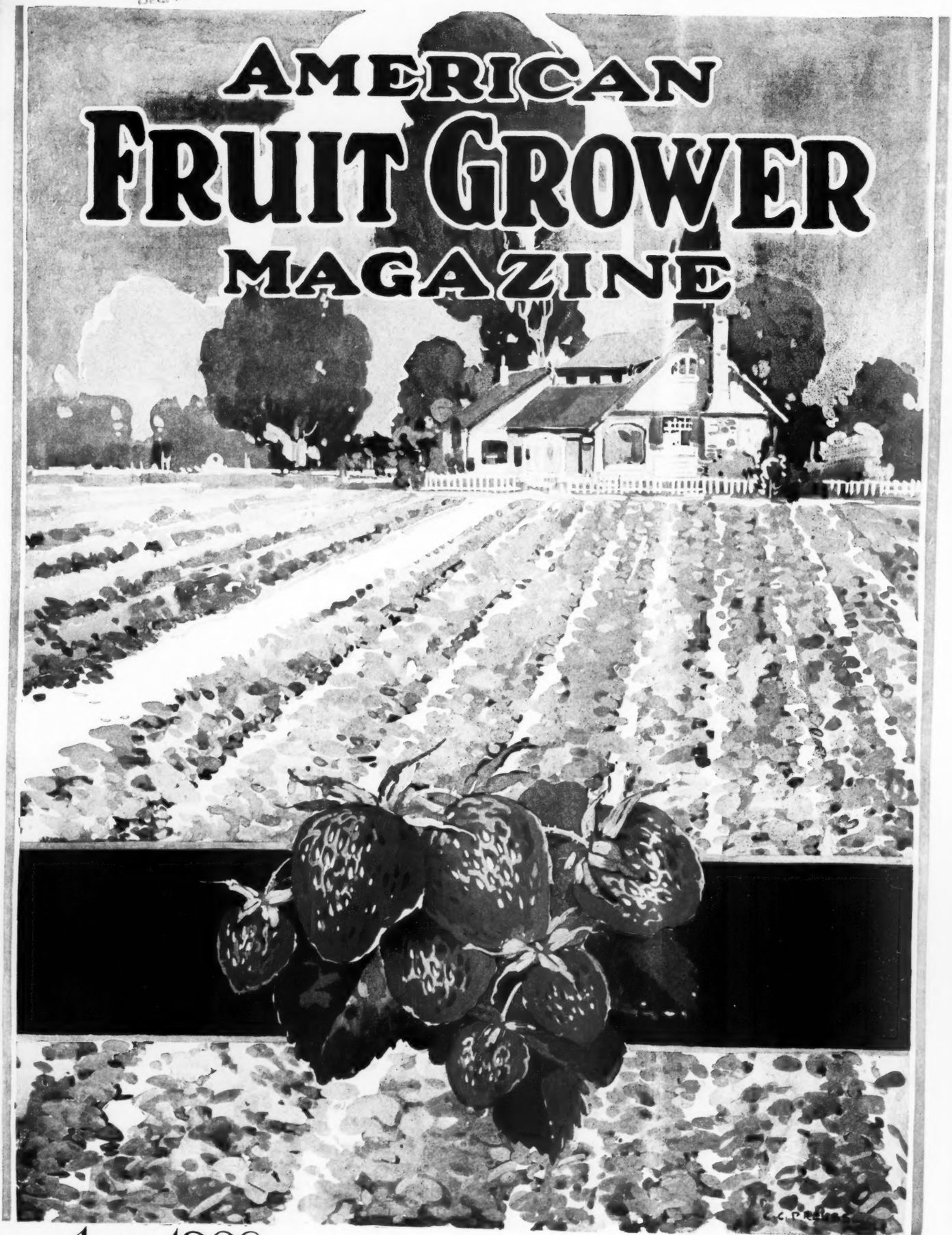
AMERICAN FRUIT GROWER MAGAZINE



June, 1928
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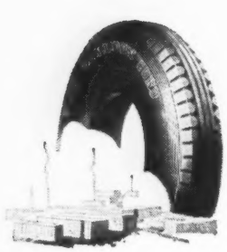

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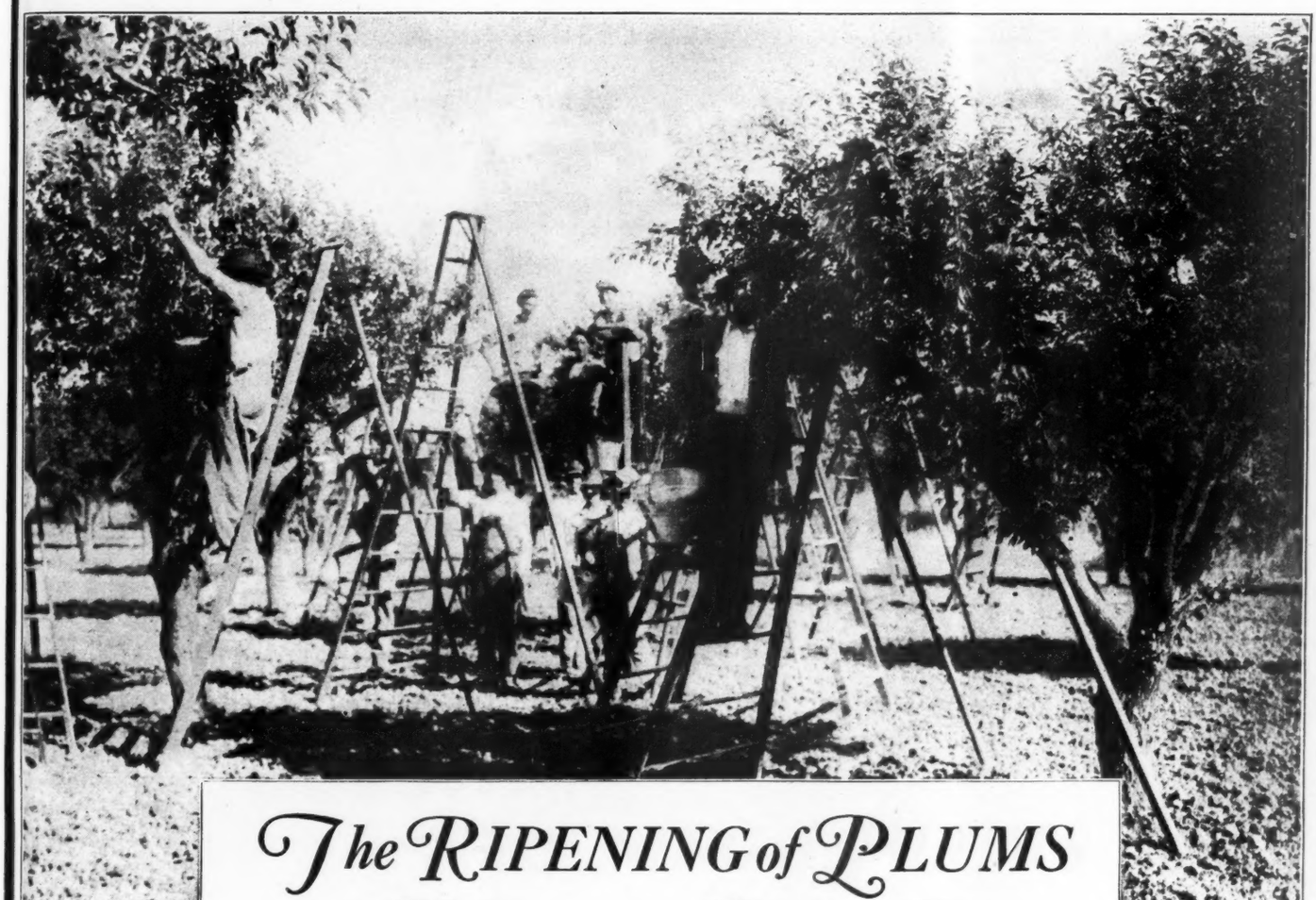


The RIPENING of PLUMS and When to Pick Them

When Is a Soft, Perishable Fruit Such as the Plum Ready to Pick? The Law Requires That All Fruit Shall Be "Mature" When Shipped. Fully "Ripened" Plums Cannot Be Transported. At What Stage Is a Plum Sufficiently Mature to Comply With the Law and Arrive at Destination in Salable Condition?

By F. W. Allen

University of California

FOR HOME consumption, the picking of plums, and, in fact, most all fruits ripening during the summer months, is delayed until the fruits become eating ripe. Such fruits possess the highest dessert quality. Commercially, however, especially where the fruit must be transported great distances to market, earlier picking is necessary. Within certain limits, the more immature the fruit when picked, the better will be its carrying quality. A sufficient degree of immaturity is essential to prevent bruising. On the other hand, repeated shipments of small, hard and poorly flavored fruit will soon react to the serious disadvantage of the producer. California growers have recognized this, and, in fact, in some instances have learned from experience the results of shipping their fruit both too ripe and too green. The all-important question therefore is, "When is a soft, perishable fruit, such as a plum, ripe enough to pick?" The State Fruit and Vegetable Standardization Law states that all fruit shipped must be "mature." Mature, however, for reasons mentioned above, could not be synonymous with "ripe." It simply carries the meaning of a certain degree of development. How, then, is each grower with all of the "57" different varieties, grown on as many different kinds of soils and under as many different kinds of conditions, going to determine when his fruit is mature? Both the California Agricultural Experiment Station and the United States Department of Agriculture have been called upon for help. After three years of work in the largest plum producing section in the state, it is believed that some progress has been made toward answering the question. The study, however, has meant careful observation and measurements in the orchard, studies in packing house management, many chemical analyses, repeated cold storage tests and finally actual transportation and refrigeration tests in transit (the latter through the courtesy of the California Fruit Exchange).

As fruit reaches the desired stage of development for picking, it undergoes various physical and chemical changes. The first and most obvious of these changes is increase in size. Measurements on marked fruits at approximately weekly intervals from the time the fruit lost its dark green color until it was of full color and ready to drop from the tree showed that the leading commercial varieties of plums gained be-

tween 1.5 and two per cent by volume per day. Naturally, the attention given the trees in the different orchards, the amount of moisture in the soil and the size of the crop on the trees are factors influencing the rate as well as the total amount of growth. Under rather unfavorable conditions, instances were found where the fruit made practically no increase after the first measurements were made. On the other hand, gains as high as 4.5 per cent in volume per day were noted. With early varieties—those which made the most rapid gains—a few days' delay in harvesting would, therefore, not only give fruit of much more desirable size but would easily result in an appreciable increase in the number of crates produced. Growth was found to continue until the fruit attained its full color, the increase, however, being slightly greater in the earlier stages of ripening. It behooves the grower, therefore, to take advantage of as much of this increase in size as the carrying quality of the fruit will permit.

The second most noticeable change, and one which in stone fruits usually occurs about the time the fruit is reaching its full size, is the change in color. Coloring of the fruit is immediately apparent to pickers and will always be an important index to the degree of ripeness. The red or blue color, however, which plums attain is influenced by light and other factors and unless these are given due consideration, color alone is likely to be misleading. It has also been observed that plums of a given color stage early in the picking season were somewhat more firm in texture—and hence of better shipping quality—than fruit from the same tree picked in the same color stage a week or 10 days later.

With such fruits as plums, softening of the flesh accompanies ripening. Although the fruit stand dealer may object, the time honored test of pressing the thumb into the flesh of the fruit to determine its ripeness is a good one. Making use of this principle, the mechanical fruit tester is being introduced and offers considerable promise in connection with the determination of proper picking maturity. With this instrument, the pressure in pounds required to force a plunger point into the flesh of the fruit to a given depth is measured. Through its use it has been found that the fruit begins to soften even before color changes are usually apparent and that it is also possible to estimate rather closely the rate of softening and to correlate this with changes in color.

As the fruit begins to assume its characteristic color, there is a gradual loosening of the stem from the spur or twig of the tree. The relative ease or difficulty of removing the specimens with their stems attached is, therefore, an indication of their relative maturity. This, however, differs materially with different varieties and in many cases is not apparent until after long distance shipment of the fruit has been made.

Accompanying these physical changes in the fruit before harvesting are also chemical changes of great importance. Of these, the change in sugar and acid content are the best known. As a general rule, it is stated that as fruit [To Page 16]

For Additional Profits--Thin Your Fruit

The May Installment of This Article Discussed the Effects of Thinning on the Fruit Crop. In This Concluding Paper Thinning Is Considered in Regard to the Tree Itself.

By A. E. Murneek

University of Missouri

PART II

IN YEARS of a heavy crop, a rather common sight in many orchards is a large number of broken limbs. Often enough these are of such size that the tree may be permanently ruined. A nasty wound caused by the severing of a branch usually does not heal over well. Wood rooting fungi gain a secure foothold through such openings. Soon the center of the tree has decayed, thus weakening its main structure and subjecting the tree to further breakage. Hence, it is little wonder that some tree of an advanced age will break down in a windstorm even from the weight of a moderate crop.

Luckily enough, many fruit growers of the eastern and central states, with their comparatively low investment and overhead expense, are able to suffer some such losses. Still it is not necessary and can be easily avoided by proper distribution of the crop as a result of thinning early in the season. In many cases a certain amount of corrective pruning, wire bracing, and timely propping of some of the limbs of trees will be of material aid also. While the greatest emphasis has been placed on the immediate influence of thinning on the fruit, the effects on the tree are equally important.

It should be clearly understood that fruit thinning cannot increase the vigor of a tree, it can merely preserve it. Vigorous trees are secured largely by proper attention to all the necessary cultural practices—soil management and fertilization, spraying, and pruning. Fruit bearing, however, is a devitalizing process, so much so that even the most robust apple or peach trees may become weakened by a series of heavy crops. Naturally, the degree of exhaustion due to a heavy yield of fruit in each case will be in proportion to the vitality of the individual tree. Very strong trees may carry safely a large crop of fruit; those in a weakened state will suffer even from moderate bearing.

The usual consequences of overbearing are a decreased vegetative growth, smaller leaves, and reduced fruit bud formation. Not only the tree is exhausted of its reserve by the maturing of a large number of fruits, but the very machinery for future fruit bud formation and food manufacture is reduced. If a short crop follows one of abundance, the tree may, and often does, recover. A series of such alternating years, however, will soon become fixed. Thus biennial bearing is initiated into the orchard.

Furthermore, a tree weakened from overproduction is more easily subject to winter injury. It has been frequently observed, for instance, that following a heavy yield, fruit buds of the peach are more likely to be killed by low temperatures. An actual demonstration in Missouri has shown that more peach buds will come through an average winter uninjured on thinned than unthinned branches. Similarly, late spring frosts seem to play the greatest havoc with fruit buds and flowers of devitalized apple trees—those that have yielded heavily during the previous season.

A timely removal of the overload of fruit by systematic thinning will certainly help very markedly in preserving the vigor of a tree and in securing the necessary vegetative development. This will become quite clear if it is remembered that it takes almost as much energy to grow a cull as to develop a marketable fruit. Most of the concentrated forms of food are to be found within the core of the apple and the stone of the peach, especially in the seed. A defective specimen usually has just as large a core, with as many seeds as a good one. When such culls are permitted to come to maturity, then are harvested and discarded or sold with practically no profit to the grower, the vitality of the tree has been uselessly scattered or exhausted. Thus a heavy mortgage is put on the future crops of an orchard.

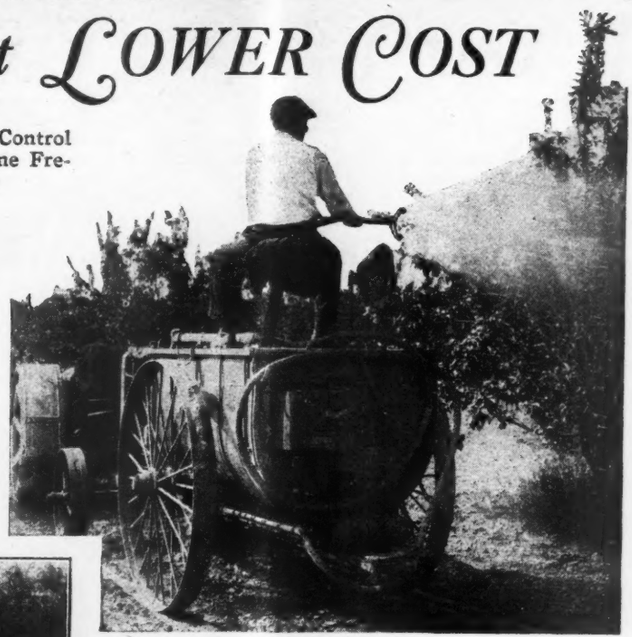
Cull piles like this one may be avoided by proper thinning of fruit.

Experimental evidence and the experience of fruit growers does not yet permit giving definite information as to whether thinning promotes more regular bearing. In general, the consensus of opinion seems to be that fruit thinning does not help very materially in altering the fruit bearing habit of a particular variety of apples or peaches. As will be explained further on in detail, the best time for thinning is after the last natural drop, the so-called "June drop," has occurred. But flower buds for next year's crop have already been initiated by this time. Hence, no marked influence on flower bud formation can result from thinning, [To Page 21]

BETTER CONTROL at LOWER COST

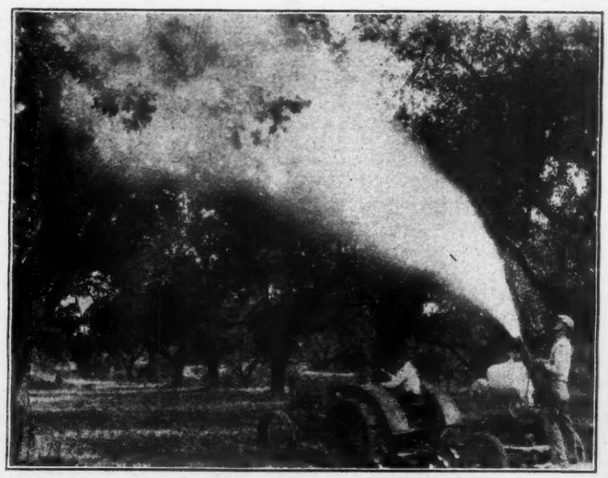
Timeliness Is Often the Most Important Element in Crop Pest Control Operations. A Speedy Coverage of the Orchard at the Right Time Frequently Means the Difference Between Profit and Loss on the Season's Operations.

By H. A. Cardinell
Michigan State College



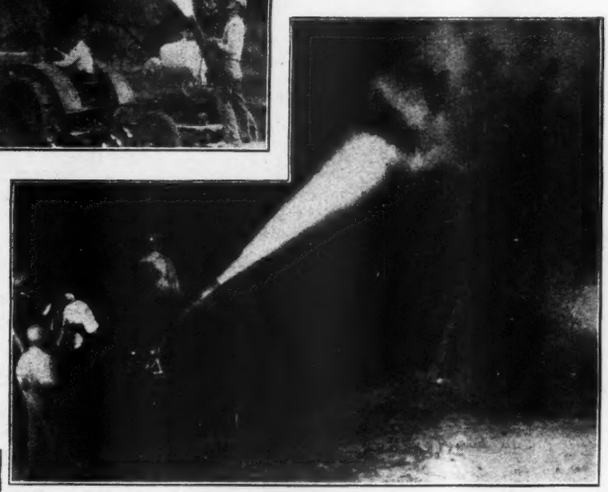
Above—This very machine and these two men, on the Huron Farms Company orchard, Washtenaw County, Michigan, sprayed 4000 trees all season for a total cost of 25 cents a tree. Note the arrangement of the gas tank and light in reach of gunman, yet out of the way.

CROP PROTECTION against the ravages of fungi and insects makes up a very large portion of the annual budget for running a farm. Annual plants, such as peas, potatoes, celery, cabbage, cucumbers, etc., are somewhat more easily protected in that it is easier to spray row crops on windy days than is the case with trees or vines. Tall plants necessitate waiting for better weather conditions. This makes it more difficult for the manager of a fruit farm to finish each protective application in advance of the appearance of the pests. In 90 per cent of the failures to obtain gratifying control, the reason is to be found in a failure to apply one or more of the applications ahead of the arrival of the pest. More often failure to provide protection for the crop in advance of trouble is due to mechanical or physical inability to cover the acreage on time.



Left—Many have replaced spraying with dusting equipment for the summer operations. Those who have stayed with it and have worked out the technique are receiving protection equal to the best liquid jobs, and at noticeably lower costs.

In 1927, Michigan saw a lighter crop reduced further by quality elimination, and this disease and insect grade-out would have been double had the law of supply and demand not allowed injured fruit to be marketed. Furthermore, few growers realize how much fruit fell to the ground because of the failure of timely spraying. Not until this month will many know that foliage injury in 1927 prevented the trees from setting much fruit in 1928. Many such trees have probably blossomed well, but early maturity of the leaves caused inadequate food storage during the past early summer and most of the blossoms may fall. Frequently, light cropping trees receive haphazard spraying and are therefore easily injured by the season's enemies. The light crop trees of 1927 that lacked good leaf growth and late maturity of foliage may fail to pay in 1928.



Right — Night dusting overcomes the handicap of windy days, and the saving in material due to greater humidity of the night air more than pays for the inconvenience of night work.

Below—And the Angle Spray Rod gets the full force of the spray down into the tree or up under the leaves, even against the wind, combining the advantages of the nozzle and the modern gun.

Plant disease authorities agree that only when spray protection is applied ahead of, during and immediately after 16 or more hours of wet foliage can control be adequate. Exceptional management is required to get over the orchard with the equipment found on most farms and do it ahead of a rain prediction, when it is about time for an application to be made.

Most farms purchase additional equipment in order to facilitate seasonal rushes. Good business management usually operates a factory more hours of the 24 before enlarging the capacity for work. The farm production industry has seldom used even two shifts of labor on the same equipment. Spraying must be on time and the important acreage must be given protection usually within a 36-hour notice. Fruit and vegetable growers often remark after a season such as that of 1927, "When it wasn't raining, the wind blew too hard and I couldn't spray on time." To wipe out these uncertainties, the writer is going to suggest three remedies that can take the uncertainty out of any spraying schedule. One of these may suffice for certain farms. The first two may be necessary for others, and for large operators all three may be preferred.

1. Equip the present machines with lights and operate at night when it is windy during the day and also when day work is not protecting enough acreage. During the past two seasons, the writer has been applying some 60 per cent of the coverage for 300 acres of mature orchards made up of apples, pears, cherries and plums. For one nozzleman to do this requires taking advantage of all the favorable weather to be had during each 24 hours of every application period. At the outset, the owner of the orchards purchased some portable gas lights to facilitate working in the dark. A calm night allows both sides of a tree to be sprayed or permits finishing the unprotected leeward left after windward spraying of the day. Some of the best orchard managers are equipped so as to do most of the season's spraying at night. It is safe to say that a better coverage of protection can be given a tree at night than during a breezy day, and a saving of one gallon per tree of spray material can result.

2. Supplement the present equipment or trade it in on a larger capacity machine. There is a fine economic trend operating and growers are replacing equipment with machines that can do the work twice as fast with half the labor charge. One man with a 20 to 30-gallon-per-minute spray pump can spray many more trees per hour than two men can spray with a machine having a pump capacity of eight to 12 gallons a minute of delivery.

3. Supplement liquid sprayers with dusting equipment. Many orchards in several states have replaced liquid spraying equipment with dusting equipment. Those who have found it practical for their crops and location and have stayed with it, have worked out the suggested technique and are receiving protection equal to the best liquid

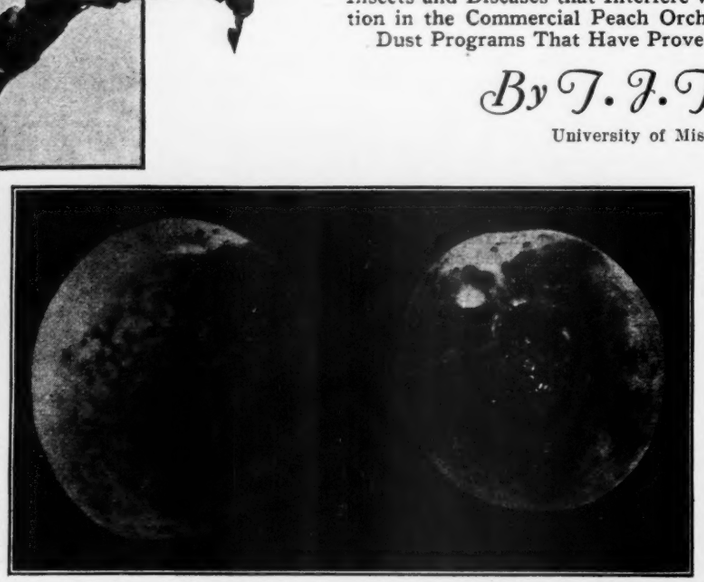
[To Page 15]

Serious PEACH PESTS and Their Control

Insects and Diseases that Interfere with Quality and Production in the Commercial Peach Orchard, with the Spray and Dust Programs That Have Proved Effective in Control.

By J. J. Talbert

University of Missouri



Upper Left.—Peach Leaf Curl. One of the most serious pests of the peach, but fairly easy to control with dormant lime-sulphur spray.

Left.—Peach Scab. A common, destructive disease. Small, round, olive-black spots appearing early in the season, later run together and involve a large portion of surface.

Below.—Brown Rot. Mummified peaches clinging to the twig. This fungus is destructive to fruit, foliage and branches and requires drastic control.

BROWN ROT is a fungous disease that is very severe on peaches and is particularly noticeable just before ripening of the fruit. It can be readily detected by the presence of "mummies." These are peaches that have dried and that hang on the tree over winter. To control this disease, it is important that the peach orchard be kept free from these mummies and rotting fruit. When these are present, four summer sprays should be applied at intervals of 12 to 14 days without fail. Special attention should be given to the control of curculio, using lead arsenate as suggested in the spray calendar, because the majority of brown rot infection follows attacks by curculio.

Peach Scab.—Peach growers are generally familiar with the disease known as peach scab or "freckles." Infections begin to take place three or four weeks after the petals fall. Scab attacks the fruit, leaves and twigs, doing the greatest damage to the fruit. The market value is reduced by the spotting which gives the fruit an unsightly appearance. In severe cases, the fruit may crack over the diseased area and allow the brown rot disease to enter, or it may be misshapen, it may ripen unevenly and it may be subject to internal breakdown due to the infection. The remedy is thorough, timely spraying with the materials suggested. For details see spray calendar and suggestions.

Peach Leaf Curl.—In unsprayed orchards, peach leaf curl may be one of the most destructive diseases. The loss is due mainly to defoliation of the trees. In severe cases of infection, the trees may be so completely defoliated that the fruit will not ripen properly and new shoots may start into growth, and new leaves develop during the late spring and early summer. The development of new shoots and leaves late in the season is a great drain on the tree and its vitality is greatly impaired and lessened as a result. Trees defoliated by this disease during two or three seasons are usually easy prey for borers, San Jose scale and other pests.

The fungus attacks the current year's growth, including twigs, leaves and blossoms. It rarely extends into the previous season's growth. The infected leaves become puffed and folded and the edges may curl inward, causing the surface of the leaf to become wrinkled. The diseased leaves may also develop a purplish colored tint which is characteristic of the malady. The foliage finally turns yellow or brown and falls to the ground.

Sprays applied after growth starts in the spring will not control peach leaf curl. It is, therefore, important that peach orchards infected by peach leaf curl be sprayed some time during the dormant season or in the spring before any growth starts.

Lime-sulphur solution at a strength of one to seven, which will also control San Jose scale, will control peach leaf curl. Where San Jose scale is not present, the lime-sulphur solution may be used more dilute, two and one-half or three gallons to 50 gallons of water. The grower may also make use of lubricating oil emulsion at the rate of one and one-half gallons to 50 gallons of Bordeaux, made according to the 3-4-50 formula. The oil-Bordeaux spray, or lime-sulphur one to seven, will control both San Jose scale and peach leaf curl, if applied during the dormant season, any time after the leaves drop in the fall and before any growth starts in the spring.

One spraying during the fall, winter, or early spring is sufficient, but the grower should remember that unsprayed or partly sprayed peach buds may show the scale and curl during the spring and summer. Very thorough spraying is, therefore, required for good control.

Bacterial Shot-hole.—As the name indicates, this is a bacterial disease and it occurs on the peach, apricot, nectarine and plum. The peach and plum generally suffer the greatest injury. The disease is known in all the peach and plum growing regions of the United States.

Bacterial shot-hole was not generally known in Missouri until about 1914 or 1915. Since then it has, during several years, been very serious to both peaches and plums in southern Missouri. The greatest damage is generally done in warm, humid

The Dusting Program for Peaches

As summer sprays for peaches some growers are adopting dusts instead of liquid sprays, mainly because less time and labor is required in making the applications. On account of the hairy or fuzzy covering of the peach, dusts adhere well to the fruit and growers are likely to secure better results with dusts, in the case of the peach, than with other fruits. Where insects and diseases are serious, however, liquid sprays are recommended. The following is suggested for dust spraying:

Time of Application	Materials to Use	For Control of	Remarks
(1) Dormant spray. Dust is not advised. Use liquid sprays suggested.	Lime-sulphur 14 gal., water to make 100 gal., or cold or boiled lubricating oil emulsion 3 gal., 3-4-50 Bordeaux to make 100 gal.	San Jose scale, other scale insects, peach leaf curl.	When scale is absent, use 3-4-50 Bordeaux, or lime-sulphur 5 gal., water to make 100 gal. for peach leaf curl. Apply before growth starts.
(2) First summer spray. When about 75% of the petals have fallen.	95–5 sulphur-lead arsenate dust.	Curculio, brown rot.	Only the finely ground and specially prepared sulphur and arsenicals are satisfactory as dust sprays.
(3) Second summer spray. When calyces or shucks are shedding or about 4 to 7 days after the blossoms drop.	95–5 sulphur-lead arsenate dust.	Curculio, brown rot, peach scab.	Commercial concerns handle machines, equipment and materials suitable for applying dust sprays.
Special spray. About 7 days after No. 3.	95–5 sulphur-lead arsenate dust.	Curculio, brown rot, peach scab.	This spray is not required unless curculio is serious.
(4) Third summer spray. About 10 to 12 days after No. 3.	95–5 sulphur-lead arsenate dust.	Curculio, brown rot, peach scab.	Dust sprays are in general more satisfactory for stone fruits than for apples. This is particularly true for the peach.
(5) Fourth summer spray. About 10 to 12 days after No. 4.	95–5 sulphur-lead arsenate dust.	Curculio, brown rot, peach scab.	Additional dust sprays at intervals of 10 to 12 days may be needed until within about 4 weeks of harvest.

regions and where the trees are weak and suffer from neglect or from a lack of cultivation, fertilization, proper pruning and spraying.

The injury to the fruit may be serious and a large percentage may fall before ripening as a result of the infection. The leaves are also seriously infected. Small circular spots of a dark color appear on the surface of the leaves, and a little later the infected area may break away from the surrounding tissue, leaving a small hole in the leaf. This gives the shot hole appearance to the leaf. The twigs are injured, dark colored spots developing upon the youngest growth, and when the disease is serious, the entire tip of the twig may be blackened and finally killed.

Spraying has proved ineffective against the disease. The only method of control so far developed appears to be that of invigorating the trees. Any treatment, therefore, that will add vigor, such as cultivation, fertilization, pruning and spraying, generally aids in the control of the disease. When bacterial shot-hole is serious, the first remedy the growers should consider is better orchard culture.

Peach Tree Borer.—Paradichlorobenzene gives the cheapest and most effective control of peach tree borers. It may be applied safely to trees five years of age or older, but it may be dangerous to use on trees less than five years old, which must be wormed if infested with borers. For best results, P. D. B. should be applied between September 20 and October 10. Grass and trash should be removed from about the base of the tree, and three-quarters to one ounce of P. D. B. placed in a closed ring about two inches from the base of the tree. This is covered with two or three inches of soil, which is then firmly pressed down with the foot or back of a shovel.

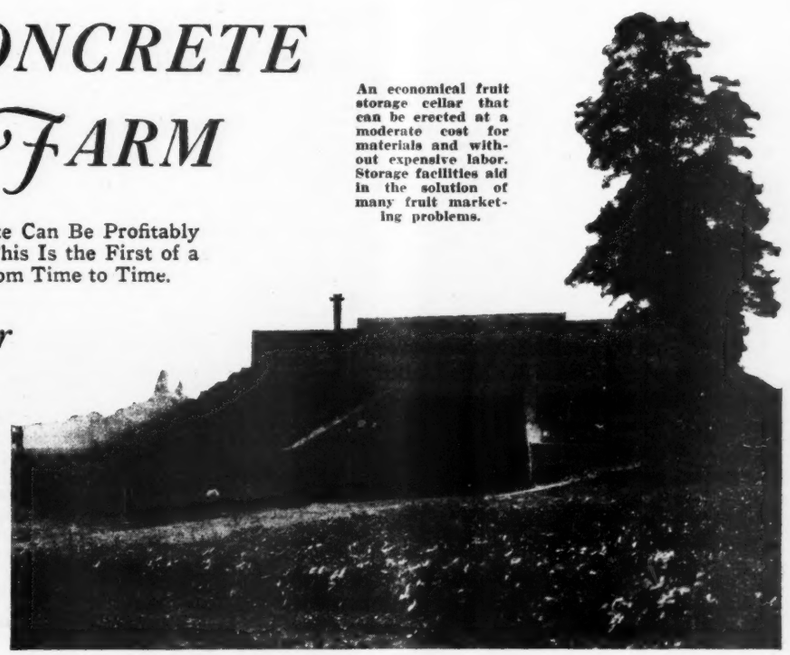
P. D. B. costs from 18 to 35 cents a pound. The total cost of application, including labor, will vary from three to five cents a tree. Chemical concerns handling spraying materials are often able to supply growers with P. D. B. Local drug stores may also handle the product. This treatment should not be extended to fruit trees other than the peach as it is likely to cause serious injury. For more details write for Missouri Agricultural Experiment Station Circular 112.

Curculio.—The plum curculio is generally responsible for the wormy peach. The food and egg punctures which it makes in the skin of the peach may allow the entrance of the brown rot disease which is very destructive to the peach fruit. Injury may begin before the shucks or husks slip from the young fruits, hence the importance of early, frequent, and thorough spraying with the proper materials. For details regarding spraying, see general spray calendar and suggestions. [*To Page* 14]

The Uses of CONCRETE on the FRUIT FARM

There Are Hundreds of Ways in Which Concrete Can Be Profitably and Advantageously used on the Fruit Farm. This Is the First of a Series of Twelve Articles That Will Appear from Time to Time.

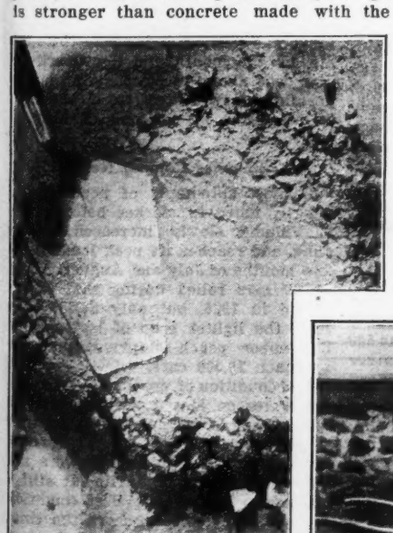
By J. E. Foster
Portland Cement Association

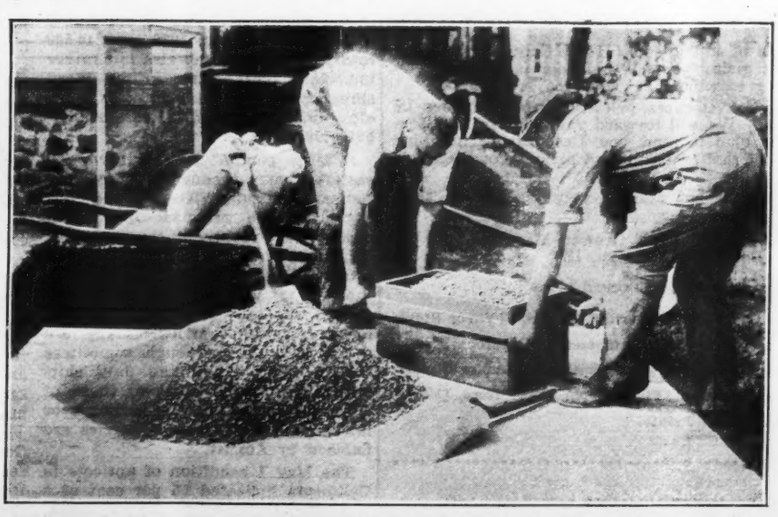


An economical fruit storage cellar that can be erected at a moderate cost for materials and without expensive labor. Storage facilities aid in the solution of many fruit marketing problems.

THE USE of concrete by fruit growers has been brought about by a desire to eliminate fire losses and to reduce maintenance and replacement expenses. Its natural adaptability to the specific needs of this industry has resulted in its general adoption for grapevine posts, storage cellars and tree surgery. Unlike most building material, concrete is manufactured "on the job." While the process of manufacture is comparatively simple, it is necessary to follow certain definite steps in order to produce a high quality product.

Concrete is a combination of portland cement, sand, stone and water, which is mixed together in a uniform manner. After it has been placed in forms, it hardens. The hardening process, which is a chemical one, continues for years, so that concrete placed one year ago is stronger than concrete made with the same proportions six months ago. Similarly, the year-old concrete will be still stronger two years from now.





(Above.)—A concrete mixture containing the proper proportions of sand and pebbles. With light trowelling, all spaces between pebbles are filled with mortar. This is a good workable mixture which will give a maximum yield of quality concrete for a given amount of cement.

(Right.)—To secure uniform concrete, uniform proportions of materials must be used in each batch. This illustration shows how pebbles can be measured on the mixing platform with bottomless boxes.

The basic material in concrete is portland cement. This is a fine powder, so fine that 78 per cent of it will pass through a sieve having 40,000 holes to the square inch. The sacks in which it is sold contain one cubic foot or 94 pounds.

When cement is mixed with water, it forms a paste. When sand and stone are so mixed with this paste that every particle is coated with it, plastic concrete is the result. It follows that the strength of this paste is dependent upon the relation of cement to water, for too much water will dilute and weaken it. This fact has led engineers to adopt what is known as the water-cement ratio law in designing concrete mixtures. This law can be stated as follows:

"For given materials and conditions of manipulation, the strength of concrete is determined solely by the ratio of the volume of mixing water to the volume of cement, so long as the mixture is plastic and workable and the aggregates clean and sound."

This law means simply that if, for instance, six gallons of water are used with a sack of cement, the strength of the concrete at the end of a given time is fixed, provided that the concrete mixture is plastic and workable and that the sand and stone are clean and are made up of sound, hard particles. It means, furthermore, that the old method of carefully proportioning sand and stone and using water indiscriminately is unscientific and does not produce the best results.

Concrete having a compressive strength of 3000 pounds per square inch can be secured at the end of 28 days by using six gallons of water to the sack of cement. If six and three-quarters gallons are used, the concrete will have a strength of 2500 pounds per square inch. Seven and one-half gallons of water will produce concrete with a strength of 2000 pounds, and 1500-pound concrete will result if eight and one-quarter gallons are used. These figures show that the more water used, the lower will be the strength of the concrete. These figures are based upon the use of dry materials. If the sand and stone contain any loose moisture, this moisture will become a part of the mixing water. Suppose, for example, a man was using sand and stone which were moist and contained one and one-half gallons of loose water. Were [*To Page* 12]

It's A *Thinking* Farmer Who Looks for These Features When He Buys a MOTOR TRUCK

Not every 6-cylinder engine is a Speed Wagon engine. Remember that the Speed Wagon engine has a turbulence-type cylinder head to squeeze the last ounce of energy out of your fuel, and the size of the inlet valve is made especially large, to get the gas into the cylinders more quickly. No other work engine has such free and unrestricted flow of water throughout the entire length of the casting.

You'll find these things mighty important, both from the standpoint of performance and economy.

Not all "4-wheel hydraulic" brakes are the Reo kind of brakes. Be sure that the brakes you buy are also *internal expanding two-shoe brakes*, such as are on all the new Speed Wagons. For Speed Wagon brakes are the best that modern engineering has produced—they stop you in any weather, on any road, in reverse or going forward, and require less adjustment. They are dirt and water-proof, and practically self-equalizing.

Not all chassis lubrication is *automatic*. Every vital moving part of the Speed Wagon chassis—from Tonner to Heavy Duty—is lubricated with the magazine system, using cylinder oil and automatic in action. You will find no other truck chassis so amply lubricated. This means the Speed Wagons will run longer without danger of excessive wear—that worries about proper chassis lubrication are in a large measure taken out of your hands by an ever-vigilant guardian.

REO does not penalize the cash buyer by pricing Speed Wagons higher and allowing more on the old trucks than they can be resold for. Last year, 44% of Speed Wagon production was retailed without taking in old trucks as part payment.

There's no "stretch" to Speed Wagon prices—Reo prices cannot be altered to fit the occasion.

Before you accept a long allowance against a truck priced high for trade-ins, find out if the man who has nothing to turn in isn't getting the same truck for about the same amount of cash that you are paying. Otherwise, you may be buying your old truck back—but not getting it.

Today, Speed Wagon prices are remarkably low—some models are priced lower than any other 6-cylinder trucks of their size in the world. Try out a new Speed Wagon—start it, step on it, stop it, park it.

REO MOTOR CAR COMPANY, *Lansing, Michigan*

SPEED WAGON

Powered with 6-cylinder motors

Inform Yourself About Home Conveniences

Do you follow the splendid plan of adding some Home Convenience every year? Unless you do, you are not giving yourself and your family the continually improved standard of living to which they and you are entitled.

Read over the list of Home Conveniences below. Check the ones in which you might be interested now. We will forward your inquiry to a few reliable manufacturers who will be glad to send you Descriptive Literature and prices, without obligation except that you will give serious consideration to the literature received.

Check the items. Write your name and address very plainly and send this coupon to:

Buyers' Service Bureau, American Fruit Grower Magazine,
53 W. Jackson Boulevard, Chicago, Ill.

Gentlemen: I am interested in the subjects checked below:

☐ Electric Lighting Plant, ☐ Carbide Gas Plant, ☐ Gasoline Lamps, ☐ Vapor Stove, ☐ Warm Air Furnace, ☐ Hot Water or ☐ Steam Heating System, ☐ Bathroom Equipment, ☐ Pressure Water System, ☐ Septic Tank Sewage System, ☐ Vacuum Cleaner, ☐ Power Washing Machine, ☐ Radio, ☐ Piano, ☐ Phonograph. ☐ Furniture, ☐ Floor Coverings, ☐ Paint, ☐ Varnish, ☐ Cold Water Paints.

Name .....

Address .....

The Market Review

By PAUL FROEHLICH
United States Bureau of Agricultural Economics

DELAY in movement of some of the southern truck crops and deficiency in carlot shipments of oranges, grapefruit and eastern apples was making the total weekly output of fruits and vegetables about one-tenth lighter than a year ago. The difference this season compared with last would be even greater had it not been that western apples, asparagus, celery, lettuce, old potatoes, spinach and Texas onions were moving in much heavier volume than last spring. However, the handicaps of unfavorable growing weather were being overcome as the season advanced, and June shipments likely will be heavy. Price trends for most products were downward under the increasing arrivals. Prices of apples and citrus fruits were maintained at fairly high levels.

Western Cherry Prospects

Movement of California cherries began earlier than in 1917 and was very active during May. Condition of the crop on May 1 was estimated at 60 per cent of normal, compared with 56 at the same time last year and 66 two seasons ago. Early indications were that California cherry production might even exceed the large crop of 1926, when 1250 cars were shipped. Black varieties were expected to be considerably heavier in proportion to the Royal Annes. By May 1 the canners had not yet established a price for their supply of Royal Annes. About 20,000 tons of cherries were produced in California during 1926, but only 12,000 last year. Carlot shipments last season were only 680 cars. Usually, California furnishes between one-third and one-half of the total shipments of this fruit.

Oregon and Washington are the next most important sources of cherry supply, all the western states specializing on sweet varieties. In 1927, Oregon shipped about 275 cars and Washington 105, compared with 485 and 410 cars respectively in 1926. The Northwest was expecting heavy crops this season, but some damage may have occurred from frosts during early May. Eastern Washington reported exceptionally heavy bloom on sweet cherry trees. Quite a number of young trees are coming into bearing this year, so that total production should be large, provided no unfavorable conditions are encountered. Sour varieties are being introduced in the Northwest. Oregon had 14,000 tons of cherries in 1926, and 10,500 tons last season. Utah also is a rather important cherry state in the West, shipping at least 100 carloads annually. Idaho marketed 180 cars in 1926, but only 45 in 1927.

A large part of the northern and eastern cherry production is sour varieties. Michigan, Wisconsin and New York are the principal sources of commercial supply, their combined shipments in 1926 equaling 700 carloads. Light crops were harvested in those states last year, and their total output was only 220 cars. Heaviest forwardings of cherries usually are recorded in June, though sometimes the May output and the July shipments are nearly equal to those of June, depending on the earliness or lateness of the season. Cherries are finished by August.

The May 1 condition of apricots in California indicated 55 per cent of a normal crop, compared with 60 per cent at this time in 1927.

Strawberry Movement Gaining

May was a very active month for strawberries, and peak shipments were anticipated about the first of June. The April freeze delayed shipments from White county, Arkansas, so that competition with Tennessee berries was greater than usual. Considerable damage was done to Klondikes and lighter damage to Aromas in northwestern Arkansas. The Oklahoma crop also suffered to some extent, and total production in that general region may not be so large as originally estimated. Movement of berries from several other states was delayed by low temperatures. Combined production in six second-early states was forecast at 105,500,000 quarts, as against 95,000,000 in 1927. In early April it looked as if the Arkansas crop would be 75 per cent heavier than last year, but cold weather reduced these prospects. South Carolina expected more berries than last season, but slight decreases appear in North Carolina, Virginia and Tennessee.

Louisiana berry growers had a successful season. Shipments ran ahead of the pre-season forecast of 2500 cars and were fully 50 per cent greater than last year. Sales on the f. o. b. auctions at Hammond totaled more than $6,000,000. Peak shipments of 127 cars occurred on April 30, after which the output rapidly decreased. Quality of late berries in Louisiana and of early pickings in North Carolina was not as good as desired. Florida growers, particularly in the Plant City section, shipped about 3,150,000 quarts this season, which returned them practically $1,000,000. Prices of berries at shipping points and in terminal markets were declining rapidly during May, as volume increased. Virginia was getting under way the middle of the month and the Ozark region was about to start. All the important berry states were expected to be active by the end of May or early June.

Peaches Coming Next

Earliest shipments of peaches frequently move to market before June 1. Volume slowly increases during June, and reaches its peak load in the two months of July and August. About 46,000 cars rolled during that 62-day period in 1926, but only 26,000 cars from the lighter crop of last season. September peach shipments usually approach 10,000 cars.

The condition of peaches in 10 southern states on May 1 was reported as 74 per cent of normal, compared with 43 per cent a year ago and 57 per cent on May 1, 1926. Prospects were not quite so good as in April, but still a large crop is expected. Best condition prevailed in Georgia, where the chief complaint was that frequent rains had washed off the sprays. The estimated percentage in Georgia was 83, as against 43 last spring. Corresponding figures for North Carolina were 78 and 39. Prospects were lower toward the west and poorest in Oklahoma and in portions of Texas and Arkansas, where the April freeze caused much damage.

At a meeting of a committee of Georgia peach growers, the following recommendations governing the packing, labeling and shipping of peaches

this year were unanimously adopted:

"On all of the very early varieties of peaches up to but not including the Carmans, a minimum size of one and five-eighths inches in diameter is recommended for U. S. Fancy, U. S. No. 1, and U. S. No. 2. All under this size shall be labeled and graded as 'Unclassified.'

"Beginning with and including Carmans, Georgia Belles and Elbertas, the minimum size of two inches is unanimously recommended for all classified fruit. The minimum size for Hileys, U. S. No. 1's and U. S. No. 2's shall be one and seven-eighths inches in diameter to be classified, but U. S. Fancy Hileys must have a two-inch minimum. All peaches not meeting these requirements must be shipped as unclassified and be so marked. There was a strong argument advanced for all peaches falling below U. S. No. 2 to be branded as 'Culls.' The term 'Unclassified,' however, is recommended."

The committee recommended also that the railroads demand a cash payment of the freight on all "Unclassified" peaches shipped.

Florida Growers Organize

The citrus growers of Florida have formed an organization which is known as the Florida Citrus Growers' Clearing House Association. This is a co-operative association organized under the co-operative statute of Florida, and conforming to the provisions of the Capper-Volstead Act.

The growers, through this organization, propose to provide for the grading and inspection of all fruit of its members, for the advertising thereof, and for assembling and analyzing market and crop information which will serve as a basis for planning a more intelligent and systematic distribution of Florida citrus fruit. It is proposed that, in regard to the packing and selling of the fruit, the association will contract with co-operative marketing agencies and private distributors for the performance of these services. The association was engaged in a membership drive and, unless 60 per cent of the Florida citrus fruit is signed up by July 1, the plan does not become operative.

Shipments of oranges and grapefruit were decreasing. Remaining supplies were so light that some anxiety was felt lest market requirements could not be fully met before the new crop comes in. Weekly movement of grapefruit recently has been one-fourth below the corresponding figures for 1927, while orange shipments were short by one-third. Florida oranges were especially scarce, and the season will soon end. California was shipping only 1100 cars of oranges each week, compared with 1800 a year ago. Some very high prices were reported in city auction markets. May 1 condition reports indicated that next season's citrus crops in Florida would be much heavier than last year.

Apples About Done

By the first week in May fully 91,000 carloads of 1927 apples had been shipped. It will be remembered that the original forecast for the season was about 94,000 cars, as against 134,000 during the 1926-27 season. With recent movement averaging only 500 cars a week, it looked as if the forecasted total would not be far from the mark. Spring shipments from the Pacific Northwest were heavier than last season but eastern apples were only about one-third as plentiful as in 1927. Two cars were coming from the West for every car which originated in eastern territory. Last spring the reverse was true.

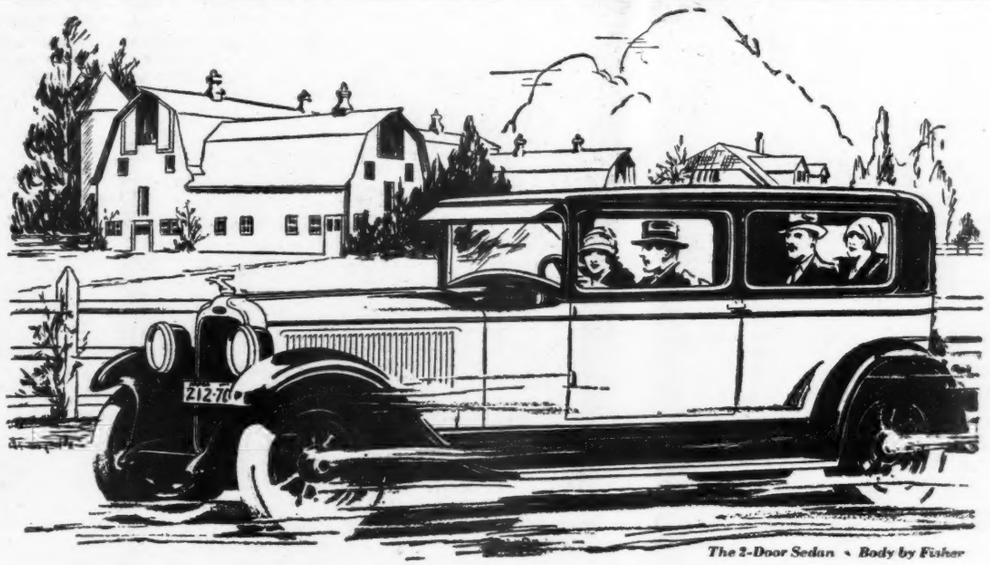
Best Baldwins had declined to $7.50 per barrel at western New York shipping points, but, as supplies were sharply reduced, the f. o. b. market recovered to $8.25-$8.50 by early May. The year before, a range of $3-$3.25 was quoted. City jobbing prices also strengthened slightly and the most desired varieties of eastern and midwestern apples were bringing $7-$9 per barrel, with fancy grades of some varieties as high as $11. Washington Extra Fancy Winesaps were jobbing mostly at $3.25-$3.50 per box, or 70 cents higher than a year ago. Considerable frost damage occurred to apples in the Ozark region, and several other sections reported some injury as a result of unfavorable weather. In general, however, apple crop prospects are much more favorable than last year. Heavy bloom has occurred in most states.

Cold Storage Holdings.

Commercial cold storage houses reported the May 1 holdings of apples about 14 per cent lighter than a year ago and about 10 per cent below the five-year average figure for this time of the year. There were still 261,000 barrels, 2,885,000 boxes and 459,000 bushel baskets in cold storage on the first of the month. The holdings of barreled apples were 60 per cent below the corresponding total for 1927 and 66 per cent short of the average for May 1. Boxed fruit, on the other hand, was in more liberal supply, as the cold storage stocks in boxes were about one-fourth greater than last spring and 27 per cent above the five-year average. About 1,800,000 boxes, or 62 per cent of the total cold storage holdings of boxes, were still in Pacific Coast states. The May 1 supply of basket stock was 14 per cent lighter than a year ago.

"He threw his slippers at me and told me to go to the devil," sobbed the unhappy daughter.

"You did right by coming home to me," answered the mother.



The 2-Door Sedan • Body by Fisher

The Roughest Roads

are always open to the All-American Six

No "waiting for the roads." No seasonal isolation following stormy weather. None of these discomforts and inconveniences for country homes served by this great General Motors car. For the roughest roads are always open to the All-American Six.

* * *

Here is a wealth of power and stamina. Of ability to keep on going where less rugged cars must fail. Resulting from a big, clean brute of an engine. With 212 cubic inches of displacement . . . 79-lb. crankshaft . . . AC fuel pump . . . the famous G-M-R cylinder head.

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Here is a sturdy chassis . . . with a frame rigidly cross-membered . . . unusually deep. With a big self-ventilating, self-adjusting clutch. Smooth-shifting transmission. Instant-action four-wheel brakes.

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And, in addition, here is the style and comfort of Fisher bodies. Completing a car of which you'll always be proud. A car in which you can place complete dependence. A *six* unequaled at $1045.

2-Door Sedan, $1045; Landau Coupe, $1045; Sport Roadster, $1075; Phaeton, $1075; 4-Door Sedan, $1145; Cabriolet, $1155; Landau Sedan, $1265. New Pontiac Six, $745 to $875. All prices at factory. Check Oakland-Pontiac delivered prices—they include lowest handling charges. General Motors Time Payment Plan available at minimum rate.

OAKLAND MOTOR CAR COMPANY, PONTIAC, MICHIGAN

OAKLAND
ALL-AMERICAN SIX

PRODUCT OF GENERAL MOTORS

Chats with the Fruit Grower's Wife

Hot Weather Equipment for the Fruit Farm Kitchen. A Review of Some Examples of Modern Ranges Burning Kerosene, Gasoline and Gas.

By Hazel Bursell

THE FRUIT FARM kitchen is a center of activity during the summer months. In addition to the routine kitchen work, the preparation of meals, and the washing and ironing, there is the work of canning and preserving that occupies much of the time from the advent of asparagus and strawberries in the spring until the harvest of the fall and winter fruits. Then, too, more often than not, the number at the table will be increased by the extra help that must be employed during the summer and fall months for picking operations.

The temperature of the kitchen during the hot months can be kept down to within the limits of comfort by two means. First, by limiting the amount of heat in the kitchen to what is necessary for household purposes, and second, by securing constant and adequate ventilation. As the subject of ventilation is the easier problem, we will dispose of that first. Open doors and windows demand tight screens. The window screens should cover the entire opening, so the sashes may be raised from the bottom and lowered from the top, to secure the greatest possible movement of air.

As glass radiates heat, windows can be inexpensively shielded from the direct rays of the sun by awnings on the outside. This obviates the necessity of lowering the shades on the sunny side of the kitchen. Shades interfere with a free movement of the maximum volume of air.

Heat is required for nearly every kitchen operation, and the comfort of the kitchen depends upon the proper control of this heat, limiting the fire in the kitchen to the amount necessary for the work to be done.

An adequate supply of hot water during certain hours of the day is desirable, but it is not at all necessary that the water be heated in the kitchen at all. Where the house is piped, either from an overhead or underground tank, a range boiler located in the basement or in an outer shed protected from drafts, can be connected with an inexpensive water heater. As the hot water supply is seldom needed for more than a few hours at a time, except on wash days, the water heater using oil or gas will be found the most economical in point of fuel and labor.

If running water has not been installed in the house, it is possible now to secure a supply of hot water from the kitchen pump without interfering with the cold water supply. A new kerosene heater, which can be secured for as little as $23, is attached to the pump line and water tank. The turning of a handle changes the flow from the pump from cold to hot water is desired. In other models a thermostat turns down the flame of the burner when the water in the tank gets steaming hot.

Above. — The equipment for the use of "bottled gas" consists of two drums of the liquefied gas piped to the range as for city gas. When one drum is exhausted it is turned off and the other drum turned on, permitting uninterrupted service.

Do Away With the Coal Burning Range

While the wood or coal burning kitchen range serves a double purpose in the colder months by aiding in keeping up the temperature of the living rooms, this very feature makes it undesirable for use during the warm months, when, with the winter flannels, it should be laid aside for a well-earned vacation. Its place, for the summer, can be filled from a wide variety of practical ranges burning volatile fuels, at prices calculated to fit the purse of any family.

Kerosene or coal oil is still the most widely used of the summer fuels, and a great majority of the kerosene ranges now in use are of the "long drum" type. Even in this type of range there have been improvements within the past few years that have added much to their efficiency, economy of operation, cleanliness and appearance with little or no price increase.

Among the improvements in this type of range may be listed the double walled, tilting chimney which makes for greater ease in lighting and cleaning, and which delivers the maximum heat to the utensil above the flame, with the minimum amount of heat radiation out into the room. An extra glass fuel reservoir is a great convenience in reducing the time of renewing the oil supply to but a few moments. A wick cleaner, together with the feature of the tilting chimney, makes slight work of the operation of keeping the wicks at highest efficiency.

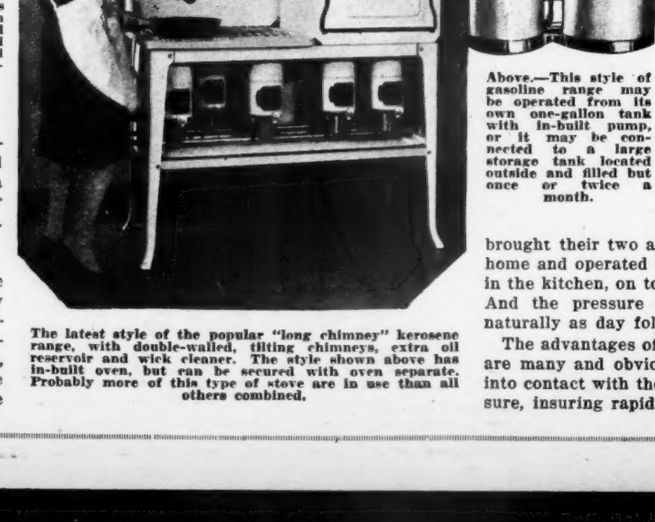
The application of the term "blue flame" to this type of range may have led thousands of users into an error that detracts from the effectiveness of the range. When a large volume of quick heat is required, such as is needed, for instance, to pan-broil an inch-thick steak in seven minutes, the "blue flame" is insufficient. This type of burner always produces the greatest heat economically when the burner is turned up so that yellow tips one and one-half to two inches long appear above the blue flame.

Left.—Gasoline under air pressure produces a hot, blue flame in direct contact with the cooking utensil. The air pressure is maintained by a "built-in" hand air-pump. The starter lights itself instantly with the scratch of a match and a turn of a valve.

On all types of ranges the "built-in" oven is usually more efficient and durable, but there is, of course, more burner surface available with the removable oven, and it is possible to secure separate ovens that give the utmost satisfaction. A thermometer or heat indicator on the oven is very desirable.

Pressure Gasoline Ranges

Of the ranges now being sold for farm use, it is estimated that more than three out of five are of the gasoline pressure type. The development of this type of range is interesting and goes back to the successful production of the pressure gasoline mantle lamp. This style of lamp became a success when a simple type of generator was developed that, by means of heat, changed the liquid gasoline into a gas that burned with a hot blue flame. When America took to the automobile and summer camping became the regular order, the gasoline lamp, with its quart of gasoline and its pint of compressed air, swiftly adapted itself to the form of the camp cookstove. Thousands of farm women brought their two and three-burner camp stoves home and operated them the rest of the summer in the kitchen, on top of the old kerosene range. And the pressure gasoline range followed as naturally as day follows night.



Above.—This style of gasoline range may be operated from its own one-gallon tank with in-built pump, or it may be connected to a large storage tank located outside and filled but once or twice a month.

The latest style of the popular "long chimney" kerosene range, with double-walled, tilting chimneys, extra oil reservoir and wick cleaner. The style shown above has in-built oven, but can be secured with oven separate. Probably more of this type of stove are in use than all others combined.

The advantages of the pressure gasoline range are many and obvious. A hot flame is brought into contact with the cooking utensil under pressure, insuring rapid heat, quick [*To Page* 17]

Fruit Farm Poultry

By RALSTON R. HANNAS

Why Yard the Layers?

THERE are several reasons why it is best to yard the laying flock. In the first place, it keeps the chickens from roosting all over the place on tools, trucks, wagons, etc., and it keeps them from getting in the garden or in any of the outbuildings where they are not wanted.

In the second place, it prevents the hens from stealing their nests all over the farm, coming out with a bunch of chicks in late summer when they won't amount to much. Even if the hens do not sit long enough to hatch the eggs, they are apt to sit long enough to spoil the eggs for eating purposes when they are found. Thus, yarding will help in the production of better quality eggs. Summer is the hard time on most farms to maintain the good quality of table eggs.

Third, more eggs will be obtained than if hens are permitted to roam all over the farm. This is aside from the fact that many eggs laid in stolen nests are never found. When hens roam all over, they do not always get enough of the right kind of feed needed to produce eggs. Such feed can be given in the form of an egg laying mash in feed hoppers in the laying house. If the birds are yarded, they will have no real reason for wanting to roam all over in search of food, provided, of course, this is given to them in the house.

Green food is essential for chickens in summer as it is in winter, and when birds are yarded, some method must be found to supply it. If there is no luxuriant growth in the yard, greens must either be cut from some other field and carried to the birds, or some arrangement must be made, such as double yarding. Under this system, there are two yards. The birds are permitted to feed in one yard while a green crop is growing in the other. When the first yard is bare and the green crop is about six inches high, they may be turned into the second yard and the first yard seeded.

Rose Chafer Poisoning

THERE are many losses among 10-week old chicks during June and July in some sections due to rose chafers. The chafer, or rose bug, seems to have in it a poison that affects the nervous system of chickens and other domestic fowl. Chicks that have eaten large quantities of these chafers will die in about 24 hours after eating them. Large numbers of these chafers will be found in the crops of the chicks upon examination after death.

The Connecticut Agricultural College recommends that where chafers are present, chicks be confined to yards, fields or runs that have been mowed during the first week in June. Such plants as daisies, grapevines, deutzia, rose bushes and birch trees will attract the chafers. Chicks should be kept away from these plants.

Keep Pace with the Growing Stock

IT'S hard to keep pace with growing things. We frequently fail to realize how fast young creatures grow. Many poultry keepers, especially, look on their young stock as baby chicks and continue to supply them with the same kind of hoppers and drinking equipment that they needed as chicks.

As the chicks grow, they need larger hoppers and more of them, as well as larger drinking fountains or drinking pans. Continuous, steady growth is what is wanted with young stock, and this can be obtained only by the consumption of feed and water. Hoppers and drinking fountains or pans that are of a convenient height so the youngsters can reach them readily, of a sufficient size that a good supply of food or water, as the case may be, can be kept on hand, and in sufficient number that all birds may have a chance at it, are great aids in getting the desired consumption.

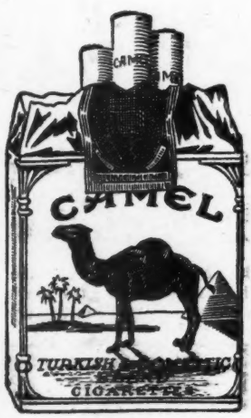
Care of Brooder Equipment

THE BROODING season is about over. The chicks are on range and heat is no longer needed except in the case of the late hatched chicks. Because the brooding season is over, however, is no reason to forget the brooding equipment.

Brooding equipment should be thoroughly cleaned and painted and put away now for next year, rather than be allowed to stand "as is" until next season. This cleaning process includes taking down the stove pipes, if coal brooders are used, cleaning them and packing them away, as well as cleaning out the stoves, painting them and storing them where they will be handy for next year. All loose parts of the stoves should be kept together to avoid inconvenience when they are wanted.

This means, also, storing all small chick hoppers and drinking fountains and other equipment after they have been cleaned.

If you smoke for pleasure



—here it is—taste, rich fragrance and mellow mildness. Camel is the cigarette that introduced the world to "smoking for pleasure."

Camels

"I'd walk a mile for a Camel"

©1928, R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

Another Pipe Smoker Voices Tobacco Joy in Flowery Verse

His love of certain tobacco makes this New Jerseyite break into philosophic poetry

When a man writes poetry it's a sure sign he's in love with someone—or something. Some men are inspired by beautiful womanhood, some by a gorgeous sunset. Here's a man inspired by his favorite smoking tobacco:

THE BLUE TIN CAN

I've tried the brands from every clime;
Choice mixtures with Perique;
But long—oh, long ago! I learned
The only brand to seek.

Each day our useless worries mount,
Our evenings to provoke;
But through the alchemy of fire
They vanish into smoke.

They vanish when our spirit holds
No enmity toward man,
And smoke the sunshine bottled up
In Edgeworth's Blue Tin Can.

So smoke away! This loyal friend
Is void of bite or sting
For *He* is monarch of a world
Where Happiness is King.

Irving H. Walker,
Newark, N. J.
April 7, 1927

Just what makes Edgeworth inspire smokers this way is hard to tell. Some enthuse about the flavor, and some because it never varies in quality.

But whatever the reason is, they like to write their appreciation. And the makers of Edgeworth are always mighty glad to hear from Edgeworth smokers. The best way to learn what *you* like about this smoking tobacco is to put it in your pipe and smoke it.

To those who have never tried Edgeworth, we make this offer:

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Edgeworth is sold everywhere in various sizes to suit the needs and means of all purchasers. Both Edgeworth Plug Slice and Edgeworth Ready-Rubbed are packed in small, pocket-size packages, in handsome humidors holding a pound, and also in several handy in-between sizes.

[*On your radio—tune in on WRVA, Richmond, Va.—the Edgeworth station. Wave length 254.1 meters. Frequency 1180 kilocycles.*]

The Uses of Concrete on the Fruit Farm

(*Continued from page 7*)

he to use six gallons of water in making his concrete, he would actually have seven and one-half gallons to the sack of cement.

The accompanying table gives the water-cement ratio together with corrections for loose water in sand and pebbles, for different classes of concrete work.

In this table will be noted a section labeled "Trial Mixture for First Batch." In mixing concrete according to the water-cement ratio, any amount of sand and pebbles may be used, provided the resulting concrete is plastic. It is important to have a uniform material, however. For this reason, the proportions of sand and pebbles are determined by making a trial batch. Under ordinary conditions, the proportions given in the table will produce plastic concrete for the corresponding water-cement ratio. It is a good plan to mix a trial batch of concrete in the proportions given and to make corrections in succeeding batches. Suppose, for example, that the recommended proportions give a mixture that is too wet. Add sand and pebbles slowly until the right state of wetness is obtained. On the other hand, if the mixture is too stiff with the suggested proportions, use less sand and stone in the next batch. It is only in this way that the exact proportions for a given job can be obtained.

The proportions of sand and stone or pebbles are determined by the size of the latter. With pebbles ranging from one-fourth inch up to one-half inch, approximately equal parts are used. If the pebbles range from one-fourth inch to three-fourths inch, about one and one-half times as much coarse aggregate as sand is recommended. When the pebbles range from one-fourth inch to one and one-half inches, the pebbles used are equal to about twice the sand.

Concrete may be mixed either by machine or by hand. While machine mixing is to be preferred because it enables the builder to secure a uniform material with less labor than hand mixing, the latter method also produces excellent results. Whichever method is used, it is important to continue the mixing until every particle is covered by the cement paste.

When machine mixing is practiced, it is recommended that mixing continue for at least one minute, and preferably for two minutes, after all the materials, including the water, are placed in the mixer drum. On the completion of a job or a day's work, the mixing drum should be thoroughly cleaned. This is best done by scouring with water and pebbles.

For hand mixing, a watertight platform seven feet wide and 12 feet long should be provided. This platform should preferably be made of one or two-inch boards, tongued and grooved, so that the planks will be tight and the platform will be rigid. These planks may be nailed to three or more two by fours set on edge. In order to prevent material from being washed off the platform while mixing, two sides and one end of it should have a strip nailed along the edge which projects two inches above the mixing surface.

By following these general suggestions, concrete of a definite strength and of a uniform quality can be secured. The two major things to remember in using concrete are, first, that its strength is dependent upon the ratio of the water to the cement, and second, that to secure uniform results, uniform material must be used.

Water-Cement Ratio in Concrete Mixtures

Kind of work	Gallons of water to add to each one-sack batch: Dry sand and pebbles	Moist sand and pebbles	Wet sand and pebbles	Trial mixture for first batch: Cement, sacks	Sand, cu. ft.	Pebbles, cu. ft.	Maximum aggregate size, inches
Foundation walls which need not be watertight, mass concrete for footings, retaining walls, engine bases, etc.	7½	6	5	1	3	5	2
Watertight basement walls and pits, dams, lawn rollers, hot beds, cold frames, storage cellar walls, etc.	6½	5	4¼	1	2½	3½	1½
Water storage tanks, cisterns, watertight floors, sidewalks, driveways, barn approaches, porch floors, basement floors, steps, corner posts, gate posts, piers, columns, sills, lintels, chimney caps, etc.	5½	4¼	3¾	1	2	3	1
Fence and grapevine posts, flower boxes, garden furniture and other work of very thin sections	4½	3¾	3½	1	2	2	¾

Delaware Holds Apple Blossom Festival

By J. B. Rumbf

DELAWARE'S first apple blossom festival on May 3 was one of the most colorful events in the history of the Diamond state. It is estimated that not less than 20,000 persons from every part of Delaware and nearby states were in Dover and the orchards of Delaware for the day; city folk to see the orchards in their glory; country people to pay homage to the tree that means so much to Delaware.

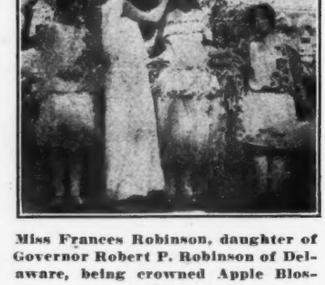
This spring festival, which was planned and sponsored by the Delaware State Federation of Women's Clubs, began in the morning with a tour among the beautiful apple orchards of Kent and Sussex counties. The orchards were in their gayest dress and to many thousands who had never visited an apple orchard when it was in bloom, this was a rare treat.

In the afternoon the program embraced a parade of floats and was followed by the presentation of a beautiful pageant.

Governor Robinson expressed the feelings of his hearers in the brief address he made between the parade and pageant.

"I think we owe a debt of gratitude," he said, "to those who made this occasion possible, and to God for this good weather. I don't see how anyone can look at anything as beautiful as the buds and blossoms are today and not feel better for it. And have you ever seen anything more beautiful than the trees and buds and blossoms? I never have."

The pageant, based upon the Greek myth of Pluto, god of the underworld, who abducts Persephone, daughter of Ceres, mother of the earth, was most elaborate and held the large crowd until the final scene, ending in the crowning of Miss Francis E. Robinson, daughter of Governor and Mrs. Robinson, as the Apple Blossom Princess. Miss Robinson wore a plain colonial costume of white crepe paper, flounced with apple blossoms, a hoop skirt and white stockings and shoes. She was crowned by Miss Margaret Maag, who took the part of Persephone. The crown was of apple blossoms. The pageant was directed by Miss Edith E. Robertson. John D. Taylor was the musical director and the music was played by the Wilmington High School Orchestra. The selections were sung by a chorus, representing the Delaware State Federation of Women's Clubs, directed by Miss Agnes Reifsnyder, Philadelphia, and accompanied by Mrs. Emmett F. Hitch, Wilmington.



Miss Frances Robinson, daughter of Governor Robert P. Robinson of Delaware, being crowned Apple Blossom Princess.

The leading parts in the pageant were taken by Miss Robinson, Miss Maag, Mrs. Frank Hare, as Ceres; Carl Vaughn, as Pluto; James Wise, Mercury; Ernest Munsen, Helios; Rosalind Garrison, Iris; Mildred Heite, Hecate. Miss Maag was assisted in her part by the Misses Hattie Walls, Helene Parker, Mildred Messick and Gladys Haigen. The Rainbow attendants were played by Theresa Johnson, Mary Vinson, Elizabeth Wilson, Mable Shackel, Priscilla Johnson and Peggie Koons.

Large choruses were employed to depict the various dances in the story. Various communities of the state were represented in the different choruses.

The stingy farmer was scolding the hired man for carrying a lighted lantern to call on his best girl.

"The idea," he exclaimed. "When I was courtin' I never carried no lantern. I went in the dark."

"Yes," said the hired man sadly, "and look what you got."

Fruit Farm Engineering

By E. W. LEHMANN

Adding to the Life of a House

THE EXPOSED window frames and casings, especially the sills, nearly always need renewing when an old house is being repaired or remodeled. This fact is sufficient evidence to indicate that careful attention should be given to this part of the house to add to its life.

A careful check-up on the house, especially the windows, to avoid decay should be one of the annual chores, like tree trimming and fence fixing. To neglect this is sure to result in considerable expense later. This does not mean that the entire house should be painted each year, but the principle of "a stitch in time" should be followed.

A putty knife, a few pounds of putty, and a small quantity of paint, a brush and a few spare moments will do wonders toward putting the windows in good repair. Neglect this and the result will be loose and broken window panes, decayed window frames, and often leaks that rot out the supporting frames and sills, not to mention the stained and discolored walls and loosened plaster.

The new fashion of painting the window frames and the sill or lower part of the casing an attractive color is a good one, since to maintain this attractive color it is necessary to repaint at regular intervals. Many beautiful shades of blue and green are used, also red. Before the painting is done, the loose putty can be removed and new putty applied. A little practice in the use of a putty knife will make possible a smooth, neat job. The tendency of the person who has not applied any putty is to put it on in lumps and not get it smoothed out properly.

A little linseed oil added to putty that is stiff will put life into it and make it work more easily. Work it carefully, like mixing dough, before using. The function of the putty is two-fold—to hold the panes of glass snugly in place, and to make the window air and water-tight. To do an effective job, the putty must be pressed firmly into the space around the pane of glass.

Remove all old, loose putty to get the best results. In some instances it may be necessary to put in new glazing points, which may be secured at a hardware store. Allow the putty sufficient time to harden before applying the paint.

Timeliness in Fruit Growing

GETTING the work done at the proper time is recognized by every successful fruit grower as a very important factor in determining the measure of his success. While the scientists have determined the treatments to apply and when to apply them for the control of different diseases, parasites, and insects, it is up to the individual grower to see that his equipment is adequate and ready for use at the proper time.

The success of no other farming activity is so dependent on getting the work done at a particular time as fruit growing. In many states the college of agriculture, the state department of agriculture, or some other agency supplies timely information on how, what, and when to spray to meet local seasonal conditions so the grower will suffer a minimum loss and save money on the sprays applied.

Because of the fact that timeliness is so generally recognized as being important to the fruit grower, he has been quicker to see the value of mechanical power than other farmers. However, timeliness is also important to the farmer who grows wheat, corn and other crops.

One of the greatest advantages of the tractor for farm use and an advantage that may be overlooked, is the advantage of having a power unit that can be used 24 hours a day and six days in the week, if conditions demand it. The same advantage applies to the truck. Most fruit farms have a truck and a tractor for this reason.

As the production season reaches full swing the importance of having all equipment in first-class shape cannot be over-emphasized. The same is true as applied to equipment needed at harvest time.

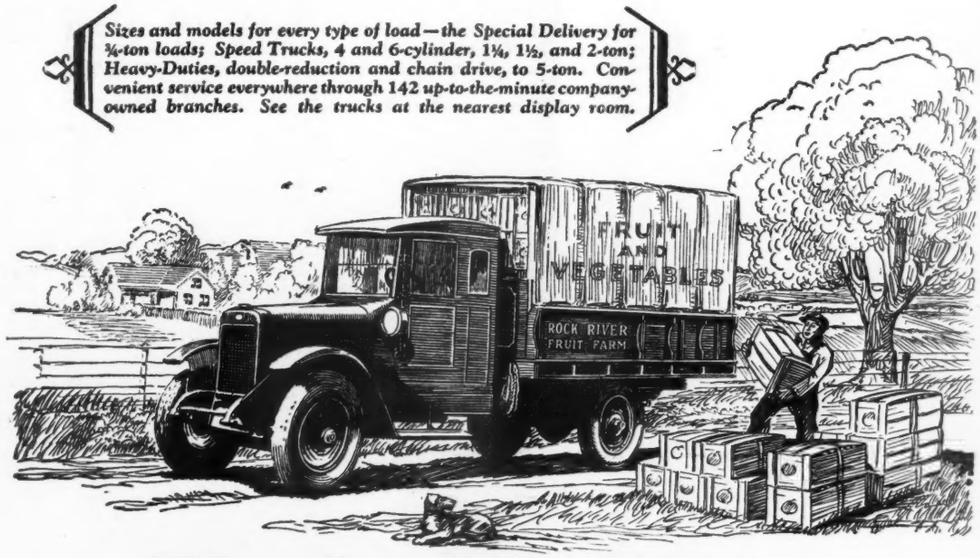
Ditch Maintenance Important

ONE OF the most important considerations in the success of a drainage or irrigation project is to keep the ditches open and free from the growth of weeds, grass and bushes of various kinds. This applies both to drainage ditches and to irrigation ditches. Experiments conducted by the United States Department of Agriculture in co-operation with the Illinois Engineering Experiment Station and reported on by C. E. Ramser, drainage engineer, at a recent meeting of the Illinois Society of Engineers, show that the capacity of many drainage ditches in Illinois could be increased threefold by merely removing the growth of weeds, grass and brush along the banks.

In many irrigated sections of the West, the growth of weeds is a decided handicap in the efficient operation of the irrigation system just the same as it is in drainage areas. Provision for maintenance should not be overlooked in the organization of any such project. Too many projects are organized, built and put into operation without giving sufficient thought to what the future costs will be.

In open ditch projects, the flow of water is dependent on the natural law of gravity. The smoothness of the walls of the ditch or channel is essential to the rapid flow of the water. To avoid the effect of the growth of weeds, as well as the loss of water by leakage, many of the irrigation channels are lined with concrete. Such construction, although of high first cost, reduces the maintenance cost to a minimum.

Sizes and models for every type of load—the Special Delivery for ¾-ton loads; Speed Trucks, 4 and 6-cylinder, 1½, 1½, and 2-ton; Heavy-Duties, double-reduction and chain drive, to 5-ton. Convenient service everywhere through 142 up-to-the-minute company-owned branches. See the trucks at the nearest display room.



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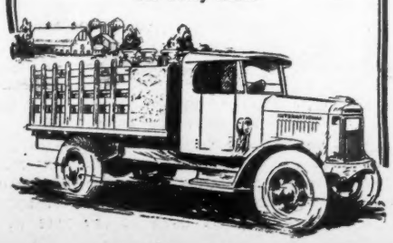

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Mount Gilead Hydraulic Cider Presses have been famous since 1877. They get every last drop of juice. Other Mount Gilead equipment, including apple butter cookers and steam evaporators for making jelly, are equally practical. Of special interest to cider makers is the new Mount Gilead Fresh Cider Filter. It removes every trace of pomace and sediment and leaves the cider sparkling and attractive without affecting its fine flavor.

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Peach Pests and Their Control

(*Continued from Page 7*)

The adult insect is a little snout beetle about three-sixteenths of an inch long. The winter is passed in the adult stage under trash, brush, dead leaves, or elsewhere if cover and protection are afforded. The beetles become active early in the spring as the peach trees start growth and is usually ready to lay eggs in the tiny peach fruit by the time the blossoms fall. The eggs hatch in three to five days, and the grubs or worms bore into the fruit, feeding as they go.

Many hibernating beetles may be destroyed by cleaning up and burning all trash, brush, and litter in and about the orchard. Good cultivation will also destroy many grubs and adults. The careful and prompt utilization of all wormy peaches will assist in the control of the insect.

San Jose Scale.—This serious insect pest of peach trees, on account of its inconspicuous appearance, may not be recognized as injurious to the trees until it has caused great damage. The first indication of its presence is usually noted by the weakening of the trees and the dying of small twigs. The infected branches and twigs will show on examination a scurfy or ashy appearance, as the bark will be found to be crusted over with hundreds of minute scale insects no larger than the head of a small pin. If the bark of the infested area is cut with a knife, the inner portion will show a reddish discoloration. San Jose scale is likely to badly injure the large limbs of peach trees before it is serious on the small twigs. Badly infested trees will also show injury of the scale on the leaves and fruit. During the spring and summer the infestation on the foliage and fruit may show reddish colored spots or blotches around each tiny scale. If peach trees are not sprayed properly, they may be killed in about three years.

The great danger of San Jose scale is due, first, to its inconspicuous appearance on the bark of the trunks, branches, and twigs of the trees; second, to its rapid multiplication, which makes it able to seriously affect the trees in a comparatively short time; and third, to the difficulty of controlling the insect until the grower has learned how to spray thoroughly and properly.

While San Jose scale must be considered one of the most serious insect pests of the peach, yet it may be effectively controlled by proper spraying. Full directions regarding the control of San Jose scale, and peach leaf curl at the same time, are given under peach leaf curl. In addition to this, further suggestions are made in the spraying calendar.

Where San Jose scale and peach leaf curl are absent, sprays Nos. 2 and 3 will generally be adequate for early peaches. For the best protection of the fruit on varieties like Elberta, Heath, Cling, Krummel, and other late varieties, two or three additional sprays applied at intervals of about 12 to 14 days may be required. This will be particularly true during a wet season. It is important, however, that the spraying work be discontinued about three or four weeks before picking time to prevent marring the appearance of the fruit and having it discriminated against upon the markets.

Spray Schedule for Peaches

No. and Name of Spray, and When to Spray.	What to Spray for.	What to Use.
(1) Dormant spray. Any time after the leaves drop in the fall and before the spring.	San Jose scale, peach leaf curl.	Lime-sulphur 1-7, or oil emulsion, cold or boiled, at the rate of 1½ to 50 in 3-4-50 Bordeaux.
Special spray. Before the buds swell in the spring.	If scale is absent, for peach leaf curl only.	Bordeaux 3-4-50 or lime-sulphur 3-50.
(2) First summer spray. Just as the husks fall from the young fruit or about 7 days after the bloom drops.	Curculio, brown rot	Use 12½ lbs. of dry-mix sulphur lime to 50 gal. of water, plus 1 lb. arsenate of lead.
Special spray. If curculio is serious, repeat this spray in a week.		
(3) Second summer spray. About 10 to 12 days after No. 2.	Scab, brown rot, Curculio.	Same materials in the same proportions as for the first summer spray.
(4) Third summer spray. About 10 to 12 days after No. 3.	Scab, brown rot, Curculio.	Same materials in the same proportions as for the second summer spray.
(5) Fourth summer spray. About 10 to 12 days after No. 4. Note: No spraying should be done later than 4 weeks before date of ripening.	Scab, brown rot, Curculio.	Same materials in the same proportions as for the third summer spray.

Amount of Spray to Use

The following table indicates the approximate volume of spray solution that should be used for trees of average size at the ages indicated:

Age of tree.	Gals. of solution spray.
1-3 yrs.	¼ to ½
3-5 yrs.	1 to 2
5-6 yrs.	2 to 2½
6-8 yrs.	2½ to 4
More than 8 yrs.	3½ to 5

Dry-mix Sulphur-Lime

The New Jersey Agricultural Experiment Station originated the dry-mix sulphur-lime. This mixture was introduced to take the place of self-boiled lime and sulphur as a spray for the fruit and foliage of peaches. It is also used as a late summer spray for apples where blotch and scab are not serious. The formula by weight for making is as follows:

64 per cent superfine (dusting) sulphur
32 per cent hydrated lime
4 per cent dry calcium caseinate

To make 50 gallons of spray mixture use:

Sulphur	8 pounds
Hydrated lime	4 pounds
Calcium caseinate	8 ounces

The above amounts may be proportionately increased or decreased to meet the capacity of any particular spray tank.

In the preparation of the mixture, the proper amounts of the ingredients should be mixed thoroughly. A screen having 12 to 14 meshes to the inch may be used to advantage in pulverizing the mixture. The dry mixture thus obtained will keep indefinitely if stored in a dry place. As a spray, it should be used at the rate of 12½ pounds to 50 gallons of water. Arsenate of lead should be added to this spray as with all others at the rate of one pound to 50 gallons.

Dusting

If dusts are used, three or four applications should be sufficient for early peaches. For late varieties, six or seven applications may be needed, applied at intervals of 10 to 12 days. It is usually advisable to continue the spraying or dusting up to within about four weeks of harvest time.

Ordinary commercial sulphur is not suitable for dusting purposes. The finely ground and specially prepared sulphur and arsenicals are much more satisfactory. These products are manufactured and sold by companies dealing in spraying materials. Commercial concerns also handle machines and equipment suitable for applying dust sprays.

Home Market for Best Apples

M. W. HALL, who has an apple orchard in Habersham county, Georgia, says in regard to apple production in north Georgia:

"For a business man, the apple proposition in Georgia probably affords better possibilities than in any other state where apples can be raised, because we can produce the highest quality in certain varieties and market the crop ahead of any other source at the best prices. There is no possibility of over-production of best varieties in north Georgia within the span of any living person, because our highest possible production of all apples at present is less than one per cent of the total production in the entire country. If all the apples we raise at present were best varieties, they would be insufficient for requirements within the state."

Young Bride—Now, dearie, what will I get if I cook a dinner like that for you every day this year?

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(*Continued from Page 5*)

jobs at lower costs. A large number of growers have tried dust, and before they could learn how and when to use it, they have bumped into an epidemic season and condemned the method. Others use dust the last half of the season to afford quick and easy protection but often bewail the fact that dust didn't hold the pests. Chances are that the early season spraying was not on time in certain severe years and when dust was expected to do the work, the diseases were only then appearing and dust as a material was credited with a failure to hold the troubles in check.

In the writer's opinion, very little dusting should be done during the day time on trees except in such cases where heat is essential, as for nicotine dust. The higher humidity of the night, coupled with calmer conditions, are two vital factors in successful dusting. The saving in material per tree will well offset any dislike for night work.

The majority of experiment stations have approved dusting as a method of crop protection to supplement a liquid spraying schedule: (1) to complete a rushed application; (2) to act as an extra application between regular periods, such as a long-drawn-out blossoming season; and (3) to complete the late summer schedule to avoid spray burn, and to allow fruit to resume its natural finish. For peaches and plums, it has become the standard of perfection in many states.

Other Ways of Speeding Spraying

In addition to these three basic ways of aiding better spraying at less time and cost, other items are of interest wherever they apply.

More sources of water supply will increase the tank output. Hauling water and materials to the spray crews will reduce the total cost of any spraying some three cents per tree for each application. Likewise, fewer days out of the week are devoted to this one farm task. These are all important points in farm management. Most farms are under-equipped and under-manned, and under such conditions men turn to machinery to make up the difference.

Larger portable tanks will allow the men to spend more time spraying and less time hauling and loading. The tanks need not be completely filled for the steeper areas of the farm. The average tank requires about the same amount of time to refill and haul as it does to spray out the solution. In other words, only five hours out of a 10-hour spray day are actually devoted to applying the spray to plants. Where this condition exists, and it is the rule rather than the exception, it is extremely inefficient. The cause is faulty management, because the owners of these crops permit a $200 or $800 spray machine with accompanying horsepower and man power of the spraying crew to haul the water and the supplies. Too many orchardists average but 100 to 200 gallons of protection an hour actually applied to the crop. Strange as it may seem, 20 to 30 minutes are all that are required to apply the protection, and at least an equal amount of time, money and effort is devoted to hauling and reloading.

A few operators have set a goal for others to reach. There are authentic records of actual seasonal output of 3000 to 5000 gallons per portable machine per day. These high output spraymen have a seasonal spray cost of only one-half the cost of low output operators. Herein lies the logical and easy way of reducing the cost of spraying. Wherever feasible, a tractor can double the output by reducing the waste in transport time. Some operators do not "bother" with their tractor for spraying because part of the orchard land is not suited for their tractor. These individuals certainly lose sight of the object of spraying, giving the greatest protective coverage to the largest acreage in the shortest time. Isn't it fitting to spray the level areas as fast as possible and devote the remaining spraying time to the rough sections?

Tractor Spray Output

During a detailed study of the division of time for the application of nearly 5000 gallons of summer spray material, the writer noted a time requirement which averaged 22 minutes to spray out 300 gallons of material onto trees; 18 minutes with a tractor were required for the round trip (one-eighth mile) for water; loading water and materials averaged only seven minutes; or a total loading, hauling and spray-out time of 47 minutes for every 300 gallons of tractor output. Nearly half of the total operating time was spent in hauling and loading. Team output would be similar but much slower. These figures represent the delivery of one sprayman using a pump with a delivery rating of 20 gallons a minute.

Similar trials of spray management features were continued during the past season. Using the same tractor on a 300-gallon tank, but with a pump having a rating of 16 gallons a minute, and one sprayman resulted in a lower work output. Nozzle delivery was less and therefore it took longer to spray out the load. The 16-gallon pump caused the same nozzleman to operate at a lower rate in order to approximate the same tree dosage as in the previous trials. Fifty-five minutes was the average time to spray out 300 gallons onto trees set 20 by 20 feet.

All conditions in these two trials were identical; same trees, same dosage, same man, same nozzle and even the same tractor driver. Therefore, it would seem that the difference between the 20-gallon per minute pump and the 16-gallon per minute pump is in the capacity to deliver material at the nozzle. The larger pump sprayed the same dosage on the same trees and varieties in an average running time of 22 minutes for 300 gallons, whereas the smaller pump required 55 minutes to deliver this amount of liquid. All of the delivery was taken through the nozzle except one gallon per minute of overflow for either pump.

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For no other enjoys the benefits of the unique intimate association with the production of such fine cars as the Illustrious "72" and Imperial "80."

As a result, Chrysler "62" is the only car to offer you the combination of these features at such low prices:—rubber shock insulators — instead of metal shackles; self-equalizing hydraulic 4-wheel brakes; 7-bearing crankshaft with interchangeable shimless bearings; saddle spring-seat cushions; balanced front wheels for utmost safety in driving at higher speeds; etc., etc.

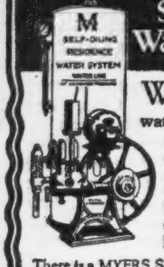
Examine the Great "62" with utmost care. Ride in it. Drive it. Only in this way can you learn just how far superior it is — not only to cars of equal price, but to cars costing many hundreds of dollars more.

CHRYSLER "62" NEW PRICES

Business Coupe	$1065
Roadster (with rumble seat)	1075
Touring	1095
2-door Sedan	1095
Coupe (with rumble seat)	1145
4-door Sedan	1175
Landau Sedan	1235

All prices f. o. b. Detroit, subject to current Federal excise tax. Chrysler dealers are in a position to extend the convenience of time payments.

MYERS
Self-Oiling Water Systems

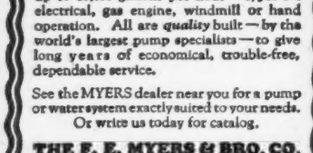


WHY carry water when a MYERS water system will give you the convenience of running water for stock-watering, sprinkling, fire protection and all household uses?

There is a MYERS Self-Oiling Water System that exactly meets your needs — whether you have a deep or shallow well — small cottage or large estate. Capacities up to 10,000 gallons per hour — types for electrical, gas engine, windmill or hand operation. All are *quality* built — by the world's largest pump specialists — to give long years of economical, trouble-free, dependable service.

See the MYERS dealer near you for a pump or water system exactly suited to your needs. Or write us today for catalog.

THE F. E. MYERS & BRO. CO.
153 Orange St., Ashland, Ohio
Makers for over 50 years of MYERS Pumps for Every Purpose, Hay Tools and Door Hangers
(C84)



HEATERS SAVE MARKET CROPS FROM FROST

From all over the U. S. growers report successful use of National Orchard Heaters in protecting market crops—strawberries, pears, cherries, prunes, etc., oranges, lemons —cut flowers—ornamentals, and vegetables. Economical—efficient—easy to operate. Burns oil practically without smoke. Over 2,000,000 heaters sold.

Write for our big new 68 page book FREE

National Orchard Heater Co.
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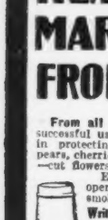
Branches:
Toledo, O.: Haines City, Fla.
National Heaters are manufactured by American Can Co.



INSECT INSURANCE in Garden, Field and Orchard

It pays big dividends to SPRAY.

Don't let insects destroy your garden or fruit, when for only a few cents you can spray and kill them.
No matter what crop is infested, "Black Leaf 40" is the old reliable spray for Aphis, Thrips, Leaf Hopper and similar insects.

KILLS BY CONTACT and FUMES

"Black Leaf 40" kills these pests on your trees, shrubs, flowers, vines and vegetables not only by direct contact (hitting) but in extra measure, by the nicotine fumes. This "extra measure" of protection you cannot obtain from the non-volatile insecticides. Ask your dealer and County Agent or write for particulars.

Tobacco By-Products & Chemical Corp. Incorporated
Louisville, Ky.

"Black Leaf 40"
40% Nicotine

The Ripening of Plums

(*Continued from Page 4*)

ripens there is an increase in sugar and a decrease in acid in the flesh. While it appears that this may not strictly hold for all fruits, it was found to be true for all varieties of plums tested. The sugar content, particularly the sucrose or sweet tasting sugars, increased markedly as the fruit ripened on the tree. Most varieties when thus allowed to become fully ripe contain from six to 10 per cent of sugar. Accompanying this increase in sugar, the amount of acid in the green fruit decreased until it reached a minimum of from three to as low as one-half of one per cent. As the relative acidity or sweetness of the fruit is governed more largely by the acid it contains rather than its sugar content, a minimum amount of acid is to be desired.

Maturity Changes Following Picking

With these as the most important changes in tree ripening of fruit, the commercial grower and shipper is further interested in knowing to what extent these changes will continue to progress when the fruit is removed from the tree 10 days or even two weeks before it would be harvested for home use. Will the large red varieties, picked with little or no color and while the flesh is still quite hard satisfactorily color, soften and increase their sugar content while in transit to market? The answer is both yes and no.

Color changes in plums are able to take place independent of light. In this respect they differ from the apple. Most plums, picked with only partial color will be fully colored after a week or more in transit to market. The higher the temperature of the refrigerator car, the greater the increase in color. If, however, the fruit is removed from the tree before showing any of its red or blue color, or before the dark green under-color begins to lighten to a straw tinge, there is likely to be little additional coloring after picking. In other words, it appears that the coloring process will ordinarily continue, provided it has started before the fruit is harvested. Just why this is true is still one of the unknowns.

Normal softening of the fruit is likewise dependent upon a certain maturity before harvesting. As mentioned earlier, plums for long distance shipment are frequently picked before they attain their complete growth. However, if picked much before they attain normal size, the flesh will not soften properly but will wilt or shrivel; instead of becoming tender and juicy, it will be tough and leathery. Premature picking is also very detrimental to the flavor. Chemical analyses show that plums gain little, if any, in sugar content after being removed from the tree. What they apparently gain in sweetness is, therefore, due to the decrease in acid. Aside from the sugar and acid content, the pleasant flavor of plums is due to absence of astringent substances, such as tannin, and to the presence of very small amounts of so-called flavoring oils or esthers. The former disappears and the latter develops only during the last stages of normal ripening. If picking is so premature that this process is stopped, the fruit is not only of very poor dessert quality, but on account of its poor color and wilted flesh, it is practically unmarketable.

Long distance producers and shippers are thus confronted with the problem of getting their soft fruits to market with good quality and yet pick and pack them while still firm enough to prevent their arrival in an over-ripe condition. As a result of the experimental work mentioned above, the California Agricultural Experiment Station has just issued a bulletin giving picking suggestions for the more important varieties of shipping plums. A combination of the two picking indexes, change of color and change in firmness of the flesh, are felt to be the most accurate tests which can be applied. While it was first thought that picking maturity might be determined by a hydrometer test of the juice for soluble solids, as is used with grapes, this proved unsatisfactory. Changes in softening of the flesh were found to be much more rapid than any other change, unless it be the change in color. Neither of the tests used singly, however, is always infallible. Using a combination of color and firmness changes, a picking schedule such as is shown is suggested. It will be noted that different varieties vary slightly in the texture of their flesh. The color and firmness range recommended include the earliest color stage and the firmest fruit which it is felt may be harvested and ripen with good appearance and fair quality. The greater amount of color under each variety and the lower pressures represent the most mature picking stage feasible for fruit which is to be loaded in the top part of refrigerator cars and shipped to market 2000 or 3000 miles distant.

Recommended Picking Condition for Plums. Based Upon Temperatures in Transit in the Upper Half of Refrigerator Cars.

	When shipped standard refrigeration		—When precooled and shipped.—	
Variety.	Color range	Pressure test range (pounds).	Color range.	Pressure test range (pounds).
(1)	(2)	(3)	(4)	(5)
Beauty	Straw tip to trace pink tip.	13– 9	Pink tip to ⅛ red.	8– 6
Formosa	Straw tip to trace pink tip.	13– 9	Pink tip to ⅛ red.	8– 6
Climax	Straw to pink tip.	18–13	¼ to ½ red.	12– 8
Santa Rosa.	Trace red to ½ light red	18–12	½ to full light red.	12– 9
Burbank	Straw tip to full straw with slight red	20–14	Yellow to ¼ red.	13– 8
Wickson	Straw tip to yellow tip	15–12	½ to ⅔ yellow.	11– 8
Duarte	½ to ¾ light red.	15–11	Full light to medium red	10– 8
Diamond	Trace to ¾ light blue	20–15	Full light to medium blue	14–10
Giant	¼ to ¾ light red.	16–11	Full light red.	10– 8
President	½ to full light blue.	16–11	Full blue	10– 7

Color under each variety and the lower pressures represent the most mature picking stage feasible for fruit which is to be loaded in the top part of refrigerator cars and shipped to market 2000 or 3000 miles distant.

GOVERNMENTS are organized to do for the governed what they, acting individually, cannot do for themselves. If economic conditions arise under which a large and most important section of the governed are about to be destroyed, it clearly becomes the duty of the government to rescue this group from destruction. — *W. H. Dick, President, National Drainage Association.*

The cheapest medicines are expensive when used as substitutes for fresh fruits and vegetables.

Saves a peck of trouble

— a good flashlight does. Puts *safe* light right where you need it. And you can't say that for an ordinary lantern. I wouldn't go out to the barn without my Eveready. It's always right on the job with a big, bright beam to point the way and to save time and trouble.

I made sure my flashlight was a genuine Eveready, and of one thing more—it's always loaded with batteries of the same name. I like to get the most for my money and Eveready Batteries certainly give you THAT. Whatever you use a battery for, you'll do well to be sure it's an Eveready. That's another word for long-lasting dependability.

HOTEL EMPIRE
Broadway at Sixty-Third Street, New York
In the heart of the automobile district
RATES
Single room with private toilet, $2.50
Single room with private bath, $3.50
Double room with private bath, $5.00
M. P. MURTHA, General Manager.

Baskets for Apples, Peaches, Plums, Grapes, Tomatoes, Cucumbers, Beans, etc. Boxes and Crates for Berries, Cucumbers, Celery, Cauliflower and vegetables of all kinds.
PLANT BOXES
Catalog mailed on request
The Pierce-Williams Co. South Haven, Mich. Jonesboro, Ark.

Jacobsen Power Lawn Mower

Frequent, regular, clean cutting is essential to a beautiful lawn. It is a laborious task with a hand-mower, but Jacobsen Power Mower shown here cuts 4 to 5 acres a day on a gallon of gas, travels on its own power, steers easier than a hand mower and has self-sharpening reel.

Beautiful Lawns at Lower Cost

Jacobsen Power Lawn Mowers are the result of years of experience by specialists in power lawn mower construction. They are the only gear driven mowers, mechanically perfected and so simple that anyone can operate them.

There is a type of Jacobsen Mower for every lawn. Attractively priced. Demonstrations on request.

Quereaux & Bailly Blanchard
2245 W. 55th St., New York, N. Y.

"So you were in the army, Ikey?"
"Oh, I vas in the army," was the proud response.
"Did you get a commission?"
"No; only my vages!"

"How are you getting along with 'rithmetic, Sam?"
"Well, I done learned to add up all the noughts, but de figgers still bother me."

Chats with the Fruit Grower's Wife

(*Continued from page* 10)

cooking and baking. The air pump is now attached to the range or built right into the fuel tank, the handle within convenient reach. On the more elaborate ranges, a gauge shows the pressure which a few strokes of the air pump now and then maintains. Safety in operation is properly safeguarded. The gasoline tank cannot be filled while any burner is lighted. A popular make of this style of range is equipped with a generator of the self-starting kind. The opening of one valve and the lighting of one match does the trick, and the range is ready for operation in a few moments.

Separate Gasoline and Pressure Tank

The use of large outside pressure tanks requiring filling only once or twice a month greatly increases the convenience of the gasoline range. The tank is placed out-of-doors and the fuel is forced into the stove through a flexible copper tube or "hollow wire."

Popular lines of gasoline ranges have, in addition to the gallon supply tank and pump attached to each range, a connection to which the "hollow wire" may be attached, and each stove may be operated from its own tank or from the large outside tank, as desired. Two or more stoves or heating burners, or a combination of laundry stove, kitchen range and water heater, or any other combination, may be operated from one tank. These outside tanks have a capacity of five to 15 gallons each, or a combination tank outfit may be secured which may be filled at any time without interfering with the operation of the stove and without releasing the air pressure. This eliminates the necessity of pumping air every time the tank is filled.

Now Kerosene Under Pressure

This season sees the introduction of a one-fuel kerosene pressure range. It uses kerosene as a fuel with all the ease and flexibility of control of the gasoline stove, and employs the generally accepted principle on which all pressure stoves operate. The liquid is fed to a generator, heat is applied, and the fuel is converted into gas.

A pressure of 15 to 20 pounds causes air to be injected into this stream of gas as it issues from a small opening in the end of the generator. This mixture feeds into a burner and burns with a short blue flame, hotter than city gas and controlled just as easily. Kerosene as a fuel has many advantages. It can be stored, handled and used in the home without danger, risk or worry. It is a cheaper fuel, and due to its greater weight, a gallon of kerosene has about 10 per cent more heat value than a gallon of gasoline. Kerosene is used to start this stove as well as to run it. A small lighting burner, which burns kerosene, plays its heat directly on to the generator, and in about two minutes has the generator hot enough to convert the kerosene into gas.

And "Bottled Gas" Too

Some years ago the idea of liquefying natural gas at comparatively low pressure was developed, and from this the natural, logical step was to "bottle" this liquid in convenient containers for use in gas ranges in districts not piped for commercial coal gas. A brief outline of this development appeared in the AMERICAN FRUIT GROWER MAGAZINE for January, 1928, and it aroused much interest on the part of our readers.

The gas is supplied in two containers, to insure uninterrupted service. When the supply of one container is exhausted it is turned off and the other turned on, the empty container being removed and replaced with a full one.

It lights and heats instantly, not requiring to be "generated," and gives a hot blue flame that is under control at all times. It is non-poisonous and odorless, but somewhat more expensive than either gasoline or kerosene.

The Ideal Range

With the wide variety of ranges, suitable for the farm kitchen in summer, from which to choose, it is fairly easy to find the one type that suits both the kitchen requirements and the pocket-book. A few points might be mentioned that are desirable in any kitchen range. After the points of safety, ease of operation and economy have been investigated and settled, there is the point of cleanliness and appearance. White, or light colored, enamel satisfies both these demands. It is not easier to keep white enamel clean than black enamel. But white enambel *will be kept clean.* Wiping with a moist cloth will keep the white enamel spotless, because the dirt will be wiped as soon as it shows—and it doesn't show on black enamel. A removable tray beneath the burners makes for ease in keeping the range clean from match-ends and boiled-over food. A high shelf is a convenience worth more than its cost. While you are selecting your summer range, better get what you want, for it's going to last for years.

Poisoning Ants

ONE OF the most reliable ways of poisoning ants is to use equal parts of tartar emetic and sugar. Moisten this with enough water to make into a syrup and pour into shallow dishes and set them in the runways of the ants. They will eat very freely of this, and as the poison does not act quickly, it is carried to the burrows and fed to the larvae. In this way the old and young die together, and a large colony is soon disposed of. In case the water dries out of the dish, more may be added.

How to care for a Fisher Body

1 When you have the chassis of your car inspected, a thorough inspection of the body should also be made.

2 In case of a closed body, have it completely adjusted after the first 1000 or 1500 miles.

3 See that the tie-down bolts, which fasten the body to the chassis, are always kept tight. Loose tie-down bolts cause distortion of the door opening. They also cause squeaks.

4 Squeaks which come from a glazed hood can be readily eliminated by inserting a small piece of rubber, or cloth, $\frac{1}{16}$ inch thick, under the lacing, and slightly lubricating the contact points.

5 Contact points on rubber door bumpers facing door pillars, the door supporting dovetail, and the striker plates, when they become glazed, should be lubricated, as should the door lock.

6 Don't fail to remove dust from the upholstery regularly, preferably using a vacuum cleaner with special dusting attachment, or, if this is not practicable, briskly apply a whisk broom.

7 Remove grease spots at once, using some safe, standard cleaner.

8 In washing car, play water on *gently* from a hose, or apply with sponge.

9 Never use hot water.

10 Never use soap.

11 Dry by wiping gently with a piece of chamois.

12 Whenever possible, do not allow your car to stand under a blistering sun for a long period, as this may have a deteriorating effect on the finish.

Body by FISHER

Classified Advertisements

ADVERTISING RATES, 15 CENTS A WORD

Write advertisement on separate sheet. Please enclose cash with order. For advertisements addressed in care of this publication, allow 5 words for address.

SPECIAL NOTICE

All advertising copy, discontinuance orders or change of copy must reach this office by the 10th of this month for next issue.

Address
AMERICAN FRUIT GROWER MAGAZINE
53 West Jackson Boulevard, CHICAGO

AGENTS—SALESMEN WANTED

SALESMEN — A PROFITABLE SIDE LINE. Salesmen calling on hardware trade and farm and orchard supply dealers will find our fruit pickers' bag a big money making side line. No trouble to carry and show, and a good seller. Liberal commission. Write for particulars. Barker Mfg. Co., 276 South Clinton Avenue, Rochester, N. Y.

AGENTS WANTED TO ADVERTISE OUR goods and distribute free samples to consumers; 90c an hour. Write for full particulars. American Products Co., 1729, Monmouth, Cincinnati, O.

BUSINESS OPPORTUNITY

CAPITAL—FOR COPY OF "THE PROMOTERS' Hand Book," a leaflet on financing, send $1.00 to Amster Leonard, East Orange, N. J.

FARM WANTED

WANTED TO HEAR FROM OWNER OF LAND for sale. O. Hawley, Baldwin, Wis.

FARMS AND ORCHARDS

ORCHARD—3000 APPLE TREES, 18 TO 23 years old, 300 peach trees, 65 black walnut trees, 30 acres of timber, 160 acres in all. 6-room house with modern conveniences. On the outskirts of the town of Bedford, which is on the Lincoln Highway. For illustrated folder describing this bargain address Box 553, Windber, Pa.

FOR SALE—IN ONE OF CHICAGO'S RAPIDLY growing suburbs, 400x600 tract on section and half-section lines with 10-year-old orchard, 450 trees, mostly Delicious and Gold Delicious apples. House and buildings with modern conveniences. Fully equipped for poultry, bees, orchard, or may be subdivided. Price $32,000, two-thirds or more cash. Address Box 61, American Fruit Grower.

IMPROVED FARMS FOR RENT IN MINNESOTA, North Dakota, Montana, Idaho, Washington and Oregon. Make a trip and see the growing crops. Cheap round trip homeseeker's tickets. Write for free books. E. C. Leedy, Dept. 975, Great Northern Railway, St. Paul, Minn.

OZARKS, 40 ACRES IN FRUIT BELT, $220, $10 monthly. Albert Zimmerman, 1802 N. Fifth, Kansas City, Kansas.

FOR RESULTS

IS THERE ANYTHING YOU WANT TO BUY or sell? Need help? Want a position? For results advertise in the American Fruit Grower Magazine classified columns. Over 250,000 subscribers. Rate 15c per word, cash in advance.

HELP WANTED

MEN — BIG PAY, WORKING ROMANTIC, wealthy South America. Fare, expenses paid. South American Service, 14,600 Alma, Detroit, Mich.

HELP AND INSTRUCTION—FEMALE

EARN $25 WEEKLY SPARE TIME, WRITING for newspapers and magazines. Exp. unnecessary. Copyright book, "How to Write for Pay," free. Press Reporting Inst., 979, St. Louis, Mo.

LADIES CAN EARN $1 AN HOUR SEWING smocks; materials cut, no selling, addressed envelope brings instructions. Dept. 12, World Garment, 346 Sixth Ave., New York.

MEN, GET FOREST RANGER JOB; $125-$200 month and home furnished; hunt, fish, trap. For details write Norton Inst., 1405 Temple Court, Denver, Colo.

MOTORCYCLES.

MOTORCYCLE BARGAINS—USED, REBUILT. Guaranteed. Shipped on approval. Terms. Catalog free. Clymer, Denver, Colo.

PERSONAL

RHEUMATISM—I WILL GLADLY TELL ANYone how I was cured in four days after two years' terrible suffering. It makes no difference what form you have, if you are suffering. Write Dept. Z. Box 147, Little Rock, Ark.

PLANTS

PLANTS, 5 ACRES. NOW READY. CABBAGE: Copenhagen, Flatdutch, Ballhead—prepaid, 200, 65c; 500, $1.25; 1000, $2.25. Express: 5000, $7.50. Cauliflower, prepaid: 100, 70c; 500, $2.25; 1000, $4.00. Moss packed. Critically assorted. Guaranteed. W. J. Myers, R. 2, Massillon, Ohio.

RABBITS

MAKE BIG PROFITS WITH CHINCHILLA RABbits. Real money makers. Write for facts. 846 Conrad Ranch, Denver, Colo.

TOBACCO

TOBACCO—KENTUCKY SWEETLEAF, MELLOW, aged. Smoking 10 pounds $1.40, Chewing, $1.75. Pay when received. Kentucky Farmers, Pryorsburg, Ky.

WOOL WANTED

WOOL WANTED—GOOD PRICE FOR ANY quantity. Please write for reliable quotation. S. H. Livingston, Succ. Keystone Hide Co., Dept. AFG., Lancaster, Pa.

E. W. Stillwell, who had charge of the Market News Service on Fruits and Vegetables, Bureau of Agricultural Economics, resigned that position on May 16 to become manager of the Clearing House Division of the Associated California Fruit Industries, Inc.

The June Patterns

No. 138—Unusual One-Piece Type.

Designed in sizes 16, 18 and 20 years, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 3¾ yards of 40-inch material with ⅝ yard of 27-inch contrasting.

No. 134—Slender-Smart.

Designed in sizes 16, 18 and 20 years, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 3⅛ yards of 40-inch material with ⅝ yard of 27-inch contrasting.

No. 133—So Attractive!

Designed in sizes, 6, 8, 10, 12 and 14 years. Size 8 requires 1⅞ yards of 36-inch material with ⅝ yard of 36-inch contrasting.

No. 3236—As Easy As Can Be!

Designed in sizes 16 and 18 years, 36, 38, 40 and 42 inches bust measure. Size 36 requires 3⅝ yards of 40-inch material.

No. 3315—Smart Uneven Hemline.

Designed in sizes 16 and 18 years, 36, 38, 40 and 42 inches bust measure. Size 36 requires 3 yards of 40-inch material with 1¼ yards of 2-inch ribbon.

No. 418—Attractive and Practical.

Designed in sizes 36, 40 and 44 inches bust measure. Size 36 requires 1⅞ yards of 32-inch material with 7½ yards of binding.

Embroidery No. 743—Floral Sprays.

Pattern provides 12 floral sprays in two sizes, 6 of each size. One spray is 10 inches high and 3½ inches wide and the other is 8 inches high and 3¼ inches wide. Pattern comes in blue.

No. 134—Slender-Smart.

Designed in sizes 16, 18 and 20 years, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 3⅛ yards of 40-inch material with ⅝ yard of 27-inch contrasting.

No. 3365—For Slender Silhouette.

Designed in sizes 16 and 18 years, 36, 38, 40, 42 and 44 inches bust measure. Size 36 requires 3 yards of 40-inch material. Embroidery design No. 713 (blue), 15 cents extra.

No. 3023—Smartly Simple.

Designed in sizes 18 years, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 2⅞ yards of 40-inch material with 1¼ yards of 27-inch contrasting.

Embroidery No. 745—Bird and Floral Sprays.

Three sets of sprays are provided in this pattern and four transfers of each spray. Suitable for children's dresses, lingerie, linens and table linens. Pattern comes in blue.

No. 3360—For Smart Junior.

Designed in sizes 8, 10, 12 and 14 years. Size 8 requires 2 yards of 40-inch material with ¼ yard of 27-inch contrasting.

Patterns may be secured by mail, at 10 cents each, postpaid, from AMERICAN FRUIT GROWER MAGAZINE PATTERN SERVICE, 22 East 18th St., New York.

Cool Beverages

HOT DAYS demand cool drinks. Even the sight of the sparkling liquid in tall glasses and the tinkling sound of the ice have a cooling effect. How freshened one feels after sipping a cool beverage!

Children as well as grown-ups will want cold drinks, and when they are made of fruit juices, the drinks are not only harmless but have certain food values as well. Fruit juices contain vitamins and minerals, those much-talked-of body conditioners and regulators.

You may use fruit juices and combine them in various ways, or use each juice separately, by diluting and sweetening to taste and cooling with cracked ice. A little lemon juice gives point to all other fruit juices. An iced tea infusion makes a good base for many punches. Ginger ale also makes a delicious beverage, adding "zip" to a mild drink. The latter is especially well liked by children. Plain or "charged" water may be used, the latter giving that "bubbly" effect.

Fruit Juices Available

No fruit grower's family should lack for suitable fruit juices for summer beverages. The juices from either fresh or canned fruits are suitable. Fresh fruit juices have a little the nicest flavor, but they can be made use of only during their particular short seasons. Grape juice is the foundation for many refreshing beverages. Here are some of the fruit juices which may be used for cold drinks, either singly or in combination—grape, lemon, orange, cherry, pineapple, Loganberry, raspberry, grapefruit, rhubarb (combined with orange), cider, maraschino cherry, and prune. Experiment with various combinations, trying out the fruits on hand at that particular time.

The Nightingale of Insects

FROM now on, the song of the mosquito will be heard in the land. Many a worthy soul will pass sleepless nights slapping wildly and observing no moderation in language. Many another may fare even worse and develop malaria or other diseases caused by mosquito bites.

If you had mosquitos in your home last year, you are more than likely to again, so take precautions in time. Screens fitted tightly to windows and doors will help much. Various applications, among which oil of citronella is the best, protect the face and hands. These unguents have an unpleasant odor but the effect wears off in several hours. Then the annoying smear must be renewed. The acrid smoke of smudges enables sportsmen and campers to eat and sleep in mosquito-infested localities.

All of these measures are merely alleviative, and it is far better to attack the evil at its source. The habit of mosquitoes of breeding in water, makes the tiniest still surface of water a menace. Do away with any receptacles near your dwelling that may catch and hold water. Invert all cans on the dump pile, or better still, bury them. Gutters, to be safe, must carry off every drop of rain water instead of holding it.

Any stagnant water that cannot be drained, should have the surface covered with common kerosene oil, one ounce to 15 square feet, renewed every ten days. A wind-blown surface may need more frequent renewal. Your neighborhood can be organized to drain a marshy place or stagnant pond. This is a community activity of highest importance. Gold or silver fish, introduced into ornamental garden pools, will devour the larvae of the mosquitoes and render the pool harmless.

Mrs. Willis (sternly, to husband arriving home at 3 A. M.)—What does the clock say?

Mr. Willis (genially)—It says "tick-tock," and the doggies shay "bow-wow" and the little pusshy-cats shay "meow-meow."

Care of Topworked Fruit Trees of Vital Importance

By Myer J. Heppner
University of California

MANY GROWERS fail to have the success they should have with their newly grafted trees because they do not give the trees the necessary care after the grafts begin to grow. While proper setting of the scions is of utmost importance, the after care of the trees is of equal importance. Growers often have success with the grafting operations, but as soon as they see the scions have set, they allow the tree to grow unchecked. This is where many growers make a mistake. Unless the proper care is given to the newly growing grafts, as well as to the stock, the topworking may prove to be a dismal failure as far as developing a new top is concerned.

A wood lath can be used to good advantage in supporting the rapidly growing grafts

A tree receives a very severe shock when dehorned for topworking purposes. This is exemplified by the heavy watersprout and sucker growth thrown out by the tree. In order to allow all plant energy to go into the new grafts, it is necessary to keep all other growth off the tree. This will naturally necessitate careful watching on the part of the grower. It is perfectly satisfactory to leave some of the small shoots on the trunk of the tree for shade and photosynthetic purposes, but it is a mistake to allow the long succulent shoots to remain and use nourishment that should be going into the grafts. To make shoots serve the purpose for trunk shading, the shoots should be pinched back to make them branch and thus develop more leaves. All growth should be rubbed off the stock as soon as it appears, except that which is to serve for shade and food-making purposes. Growers often wonder why their grafts make such poor growth, forgetting that the bushy growth they are allowing to grow on the stock is growing at the expense of the grafts. If you want good growth from the grafts, keep all superfluous growth from the tree.

When the above mentioned growth is never allowed to get established on the tree, the grafts will generally make a very heavy and thrifty growth during their first growing season. This is to be expected in view of the fact that a large, well established root system is supplying a large amount of soil nutrients, to a relatively small tree top. It is not unusual for a newly set graft to make over eight feet of growth the first season. These rapidly growing grafts should receive some care in order to avoid breakage, which often occurs when they become top-heavy. Although the graft may make a heavy growth, it does not necessarily follow that the union between stock and scion is perfect. It is for the latter reason that these rapidly growing grafts should be braced so as not to break off at the point of union. One of the best and easiest ways of bracing these grafts is to nail a slat to the branch grafted, in such a way that it parallels the graft. The graft should then be securely tied to the slat with string. The bracing will prevent the graft from waving in the wind and endangering the more or less weak union.

The number of scions placed on each topworked branch depends upon the size of the latter. Large branches naturally require more scions than small branches. The question often comes up as to what should be done if all the scions, or a number of them, grow on the one branch. This cannot be answered by any definite rule, but it should be the grower's aim to allow only one scion to remain permanently. If two or more are left a bad "Y" generally results. If two scions are growing or a small stub, it is generally advisable to cut off the weaker of the two after an appreciable amount of growth has been made. The cut should be made close to the stub. However, where the stub is a large one, at least two scions should be allowed to grow during the first season so as to allow quicker healing of the wound to take place. During the second season the weaker or less favorably placed of the two should be

(*Continued on page* 20)

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Index to Advertisements

The concerns whose advertisements appear listed below are equipped to give prompt and satisfactory service to the American fruit grower. Most of them issue literature that is freely at the disposal of our subscribers. It is to the advantage of all that when writing to an advertiser you use the address exactly as it appears in the advertisement, and that you state in your letter: "I Read Your Advertisement in AMERICAN FRUIT GROWER MAGAZINE."

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Do a Favor to Your Neighbor

There is a neighbor living near you, a fruit grower. You know he is trying to do his best, for he frequently asks you what to do and when to do it, and you are always glad to give him the information.

If you think he would be benefited by the expert advice he would receive every month through the AMERICAN FRUIT GROWER MAGAZINE, why not call it to his attention? He would thank you for the courtesy.

When you are through reading this issue, loan this copy to that neighbor, first placing a big black "X" in the margin opposite this coupon. He'll get the point and grasp this opportunity to better his methods. Better reach for your pencil and do it now.

Your Neighbor, in all likelihood, will avail himself of the opportunity to use this coupon

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Name .....

Address .....

Care of Topworked Fruit Trees of Vital Importance

(*Continued from Page* 19)

removed. A practice commonly followed is to cut one growing graft severely so as to check its growth somewhat and thus avoid the bad "Y." This cut back branch should not be allowed to remain permanently but should be cut off as soon as a goodly portion of the stub has healed over.

Many of the scions inserted when grafting over a tree often fail to grow. This is generally due to poor scion wood or poor technique in grafting. In such cases all of the heavy shoots thrown out by the stubs should not be removed. These can be readily budded during the summer months to the desired variety or species of fruit. If the budding is done early enough, it is often possible to get growth from the newly set buds the same season. Thus, if your grafting fails in winter or spring, do not wait until the following spring to re-graft but bud as soon as possible. This will save much time and the desired results will be had that much sooner. The common "T" bud should be used on the trees, and the same care given to the budded shoots as is given to budded nursery stock.

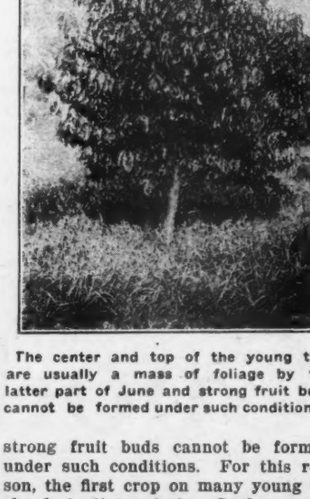
The graft union should be watched carefully the first year and as soon as any cracking occurs in the wax, an additional coat should be applied.

Summer Pruning the Peach Tree

By MONROE McCOWN
Purdue University

THE FIRST FRUITS of the young peach tree will be produced only in the well lighted portions of the tree. Unless the heavy growths in the top and center have been thinned out during the previous growing season, these first fruits will be limited to the "hangers," or low branches, and other parts of the tree that happen to be exposed to the sunlight.

The center and top of the young tree are usually a mass of foliage by the latter part of June. This means shading of the individual shoots. These shoots will be spindly and greatly weakened by this shading, and



The center and top of the young tree are usually a mass of foliage by the latter part of June and strong fruit buds cannot be formed under such conditions

strong fruit buds cannot be formed under such conditions. For this reason, the first crop on many young orchards is disappointing. Such a condition can be remedied through a systematic thinning of the young shoots. This will allow the sunlight to penetrate and encourage the production of plump fruit-bearing wood.

One thinning in the latter part of June is ordinarily sufficient, but a second treatment may be needed three or four weeks later. Summer pruning is usually necessary, especially during the second, third and fourth growing seasons.

Many trees of bearing age, which suffered the loss of the crop by low winter temperatures, will have been headed back rather severely to correct that undesirable "leggy" condition. These trees will produce much the same type of growth as vigorous young trees. Too many shoots will be formed and, unless thinned in a way similar to that recommended for the young trees, the amount of plump fruit bearing wood will be limited. Tipping of the longer shoots that are left in the centers is advisable, so long as this tipping is done by the latter part of June. Tipping will result in branching and the production of a more desirable type of fruit wood.

It must be understood that this summer thinning is merely a supplement to dormant pruning. Heavy pruning is not to be recommended at this time. It would certainly be unwise to attempt at this time to make up for any lack of dormant pruning. The thinning out of larger limbs should be delayed until the dormant season.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912,

of The American Fruit Grower Magazine published monthly at Chicago, Ill., for April 1, 1928.

State of Illinois, County of Cook, ss.—Before me, a notary public in and for the state and county aforesaid, personally appeared Harry W. Walker, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Fruit Grower Magazine and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

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HARRY W. WALKER

Sworn to and subscribed before me this 31st day of March, 1928.

(Seal) A. C. BAMBERGER,
Notary Public.

(My commission expires Aug. 11, 1929.)

Thin Your Fruit for Profit

(Continued from Page 4)

and, therefore, it does not seem to have any direct effect on the future crop. It may be expected, however, that in the long run an orchard, the trees of which are thinned consistently, will be a more regular bearer. In fact, the consistent cropping of most deciduous fruits in the western states may be due in a large measure to systematic thinning. The biennial bearing habit of many varieties of fruits is far more pronounced east than west of the Rockies.

Time of Thinning Apples and Peaches

As a rule, apples should be thinned as soon after the June drop as possible. The more promptly the work is done, the better will be the results, since most of the elaborated food is transferred to the fruit rather early in the season. The June drop is the last natural thinning by the plant itself. Thereafter it is possible to tell how many fruits will stick and how much artificial thinning will be required. At the time when the work should be done, apples are usually about one inch in diameter—the size of walnuts.

Some early varieties, such as Duchess, Wealthy, Yellow Transparent and others, sometimes attain this size in May. Hence, thinning of summer apples is done correspondingly earlier. In all instances, one should be guided by size and the natural drop of the fruit.

Peaches, of course, must be thinned immediately after the late "May drop" or early "June drop," when the fruit is still small and the pits have not yet hardened. The hardening of the stones is a heavy drain on the vitality of the tree.

A word of caution should be added here. Not infrequently the last drop of peaches may be rather protracted. As a result, the grower may think that the trees have an unusually heavy set of fruit and an extensive thinning will be required. But by the time the June drop is over, the crop after all may be comparatively light. The trees should be examined and watched carefully.

How to Thin—Methods and Distance

Thinning of the apple, like the peach, is done much more conveniently by hand than by the use of any particular tool. The young apples can be easily broken off by pressing dexterously against the fruit stem and toward the spur. A little practice will guide one in adopting the best procedure. It is advisable to shake the branches beforehand. This will save labor, for many specimens that should have dropped naturally may still be hanging on.

In general, the smaller the fruit a tree produces, the more it should be thinned. The size of the fruit is a good index of the ability of the tree to carry a certain crop.

Naturally, in years of light crops and with some varieties or trees which are inherently light bearers, very little thinning or no thinning at all will be required. This is equally true of some branches on practically any variety that for one reason or another may have set sparsely. Such parts of a tree may not need any attention beyond the breaking up of occasional "doubles." Many summer apples, on the other hand, especially those bearing biennially, quite often set so heavily that thinning by necessity must be very severe. If not thinned, some summer apples remain so small that they are almost worthless even for local trade.

As a rule, not more than one apple should be left per spur, and these fruits should be thinned four to eight inches apart on the branch. Naturally, all small and defective individuals are removed first. If the tree is in a vigorous condition, the crop comparatively light, and the set uneven, then, of course, it is permissible to leave some of the fruit closer together, even two specimens to the spur. Judgment must be used in this work as in any other procedure.

In thinning peaches, care should be exercised that all undersized, inferior and insect injured specimens are removed. Those left should be thinned to about four to six inches apart, depending on the condition of the twig or the tree. Many experienced peach growers of this state believe that under no circumstances should more than two fruits per linear foot of branch be permitted to develop.

Cost of Thinning

Quite contrary to the opinion of many growers who have not practiced thinning of fruit, the undertaking is relatively inexpensive. When one deals with a considerable acreage, the work may appear formidable, but in practically all instances it is a paying proposition.

Records kept by the writer and others show that trees yielding 10 to 15 bushels of apples can be thinned properly at the cost of 30 to 45 cents per tree, or approximately three cents per harvested bushel. With the present scale of wages around 25 cents an hour, low headed trees may be thinned for as little as two cents a bushel. Those of greater height will raise the cost to four cents. Light thinning, of course, is less expensive.

The cost of thinning peaches when the trees are young or headed low will be about the same as for apples. It will cost somewhat more to thin older trees. But unquestionably it pays to thin all overloaded trees at practically any reasonable expense. Of this one may be easily convinced by a single season's practice.

Some General Remarks

It must be realized that fruit thinning is not a cure-all. The crop must be carefully grown before it is worth thinning. In fact, it may not pay at all to thin neglected, unsprayed and devitalized trees, on which almost all of the fruit may be defective. Hence, thinning will be remunerative in proportion to the grower's desire to raise high quality fruit and grade it properly before marketing. The conscientious orchardist, one who has attended carefully to all the essential orchard operations, cannot afford to neglect thinning, an undertaking that will put the finishing touches on his crop and insure a margin of profit.

Furthermore, the work must be done with reasonable care. Rough or slovenly practices will not produce the desired results. On the contrary, much injury can be done to the trees by pulling off large numbers of spurs or by the breaking of branches. In this respect, however, the dangers are not near so great as equally careless work at the time of harvesting, particularly when pickers are paid by the bushel.

The fourth session of the American Institute of Co-operation will be held in California from July 9 to August 4.

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American Fruit Grower Magazine for May

Fruit Farm Equipment and Home Conveniences

FOR EVERY addition to the operating equipment on the modern fruit farm, the grower, if he is a forward-looking "family man," will make a corresponding, though usually a less expensive, addition to the equipment or furnishing of the fruit farm home. And this is a sound, economical practice. The farm machinery receives its regular supply of oil or other lubricant, for well oiled equipment is long-lived equipment. Paint and varnish fills a similar place, so far as the home is concerned, in lengthening the life of inside and outside walls, and of the interior trim.

In the spring missing trees are replaced in the orchard; we make new plantings of the shorter-lived fruits, the strawberries and the small fruits. All that the fruit farm may be kept up to its highest state of production.

Let's not neglect the corresponding demands of the fruit farm home. The home is, and should be, the inspiration for every farm activity.

Every year sees new refinements in fruit farm equipment designed to lessen the labor of growing marketable fruit. And every such improvement is generally adopted by fruit growers.

The improvements and refinements in the furnishings of the farm home from year to year are no less marked. And they should be just as promptly adopted in the homes of our fruit growers.

Labor saving machinery that washes and irons for a few cents' cost for power; lighting systems that furnish ample illumination at little cost, but with no work for the housewife; modern ranges that produce economical heat when and where it is desired—these are not expenses. They are investments that yield generous dividends in freedom from irksome labor, in comfort, and in additions to the joy of living.

Let's not neglect the home. We work that we may live, and we live in our homes. When we add to the farm we add to the effectiveness of our labor. But every addition to the home is an addition to life itself. So closely is the life of man bound up in the interests of the home that every change, for better or for worse, in the condition of the home leaves its impress on the lives of those who dwell therein.

It may seem far-fetched to list as character influences such seemingly commonplace articles as paper and paint, washing machines and vacuum cleaners, porch swings, radios and hot water plumbing, refrigerators and kitchen ranges. But singly and collectively they and their like are the evidences of advanced civilization in the home.

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"Orchard Tours" a Source of Enjoyment

ONE OF THE most enjoyable, and withal profitable, experiences of which the fruit grower in nearly every locality can avail himself, and at but a slight cost in money and time, is the summer "Orchard Tour." These tours, usually arranged by the state horticultural body, and covering some important fruit section each year, are becoming deservedly more popular every summer. To every grower who takes part, there comes a most enjoyable experience. The famous orchards and fruit plantations in the districts covered are visited. The string of cars comes down the road in a cloud of dust, "following the arrows." The orchard is invaded. In congenial groups the "tourists" spread over and through the fruit plantation and then converge to hear a brief exposition of methods. The county agent talks. The owner or manager, as the case may be, is called on to tell how he does it. Red of face, he complies, and possibly lets slip, in all innocence, that his success was due to some material or some practice that has been solemnly condemned by the state college. Questions are answered, argument wax warm—and the signal is given for a move to the next place.

Whether the tour lasts but one day or stretches out to three, every hour is enjoyable and educational. Grower meets grower and compares notes. At noon there is usually a prearranged dinner together. Then a few talks and a period of relaxation. The afternoon passes as did the forenoon.

The tour comes to an end with everyone dusty, tired and happy.

Concrete for Permanent Fruit Farm Structures

IN THIS issue appears the first of a series of articles on the use of concrete on the fruit farm. From time to time other similar articles will appear, dealing specifically with the products and structures of approved design for fruit farm use. It is only within recent years that designs for fruit farm buildings have reached the stage which might be termed standardized. Methods have been in such a fluid state that only recently has it been practical to design a fruit farm packing house, for instance, with any assurance that it would be practical for use five years later. Practical experience has developed types of structures that have proved efficient under wide ranges of territory and can safely be erected as permanent buildings. Concrete, almost alone among the economical building materials, is pre-eminently the building material of permanence.

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